BIOLOGICAL RESOURCES TECHNICAL REPORT

YOUNGER PROPERTY

PESCADERO, SAN MATEO, CALIFORNIA

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LIST OF ACRONYMS

APT	Antecedent Precipitation Tool
BCC	USFWS Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRA	Biological Resources Assessment
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
County	County of San Mateo
CRLF	California Red-legged Frog
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
LCP	Local Coastal Program (San Mateo County)
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation & Management
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
PDSI	Palmer Drought Severity Index
RWQCB	Regional Water Quality Control Board
SFGS	San Francisco Garter Snake
SSC	Species of Special Concern
SWRCB	State Water Resource Control Board
TOB	Top of Bank
USDA	U.S. Department of Agriculture

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.
WRCC	Western Regional Climate Center

1.0 INTRODUCTION

On April 26, 2022, WRA, Inc. conducted a biological resource assessment of the Younger property (Study Area) located in the unincorporated community of Pescadero, in San Mateo County, California (Figure 1). The Study Area is comprised of Assessor Parcel Numbers [APNs] 087-250-140, 087-250-150, and 087-250-160. This Biological Resources Technical Report evaluates existing biological resources, potential impacts, and mitigation measures (if required) for installing a well to support the potential future development of a single-family residence.

1.1 Overview and Purpose

This report provides an assessment of biological resources within the Study Area and the immediate vicinity. The assessment included a biological resources assessment in addition to a rare plant survey. A wetland delineation was conducted concurrently with the biological assessment and detailed information relating to the wetland delineation is included in a separate report. The purpose of the assessment was to identify, describe, and map any sensitive habitats, including riparian, wetland, and stream areas, or other Environmental Sensitive Habitat Areas (ESHAs); and "rare, threatened, or endangered" species, which may occur in the Study Area. WRA performed the biological resources assessment in accordance with the San Mateo County (County) Midcoast Local Coastal Program (LCP), including Sections 7.1-7.19. This report contains an evaluation of potential impacts to special-status species or ESHAs that may occur as a result of the proposed project and potential mitigation measures to compensate for those impacts to support a California Environmental Quality Act (CEQA) evaluation. If the project has the potential to result in significant impacts to these biological resources, measures to avoid, minimize, or mitigate for those significant impacts are described.

A biological resources assessment provides general information on the presence, or potential presence, of sensitive species and habitats. Additional focused surveys may be required to support endangered species consultation, regulatory permit applications, or to implement preconstruction impact avoidance measures included in this report. This assessment is based on information available at the time of the study and on-site conditions that were observed on the dates the site was visited. Conclusions are based on currently available information used in combination with the professional judgement of the biologists completing this study.

1.2 Project Description

While no formal project has been proposed at this time, this report will be submitted to the County along with applications for a Coastal Development Permit for domestic well construction to determine if the property contains sufficient water to supply a single-family residence. A map of proposed well sites is provided as Figure 7.

1.3 Summary of Results

The Study Area (6.52 acres) is located in a rural residential area on the western side of Highway 1, bordering the Pacific Ocean. The dominant land cover types are northern coastal scrub and coastal bluff scrub, both non-sensitive land cover types. The other non-sensitive land cover type includes a stand of planted and naturalized Monterey cypress trees. The Study Area contains sensitive habitats including wetlands and sea cliffs.

Two wetlands occur on site, seasonal wetland (0.29 acres) and scrub shrub wetland (0.62 acres). The potential project location is intentionally sited to avoid on-site seasonal wetlands, which are potentially jurisdictional by U.S. Army Corps of Engineers and Regional Water Quality Control Board and regulated by the California Coastal Commission (CCC). A combination of avoidance and preservation is recommended to ensure consistency with the LCP policies and state and federal regulations.

The sea cliffs land cover type area encompasses 0.47 acres of the Study Area and incorporates the unvegetated cliffs down to the Pacific Ocean. Sea cliffs are under CCC/LCP jurisdiction. The Study Area is intentionally sited to avoid sea cliffs and mitigation measures and best management practices have been developed and provided herein to avoid impacts to this land cover type.

Ten special-status plant species have the potential to occur within the Study Area. A protocol-level rare plant survey conducted on April 26, 2022, documented two special-status plants: Harlequin lotus (*Hosackia gracilis*, CRPR 4.2) and Choris' popcornflower (*Plagiobothrys chorisianus* var. *chorisianus*, CRPR 1B). Both populations of plants have been mapped and impacts to the species will be less than significant with the combination of avoidance and mitigation measures.

One special-status wildlife species has a moderate potential to occur within the Study Area, San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), as well as non-status birds with baseline legal protections, have the potential to occur in the Study Area. Mitigation measures and best management practices have been developed and provided herein to avoid impacts to these species.

TABLE 1. Summary of Biological Resources Evaluation

CEQA Assessment Category[1] IV. -Biological Resources	Biological Resources Considered	Relevant Laws and Regulations	Responsible Regulatory Agency	Summary of Findings & Report Section[2]
Question A. Special-status species	Special-status Plants Special-status Wildlife Designated Critical Habitat	Federal Endangered Species Act California Endangered Species Act California Native Plant Protection Act Migratory Bird Treaty Act	U.S. Fish and Wildlife Service National Marine Fisheries Service California Department of Fish and Wildlife	Mitigation measures are recommended to reduce potential impacts to a level that is less than significant. **See Section 7.0 for more information**
Question B. Sensitive natural communities & riparian habitat	Sensitive Natural Communities Streams, Lakes, & Riparian Habitat	California Fish and Game Code Porter-Cologne Act Clean Water Act	California Department of Fish and Wildlife State Water Resources Control Board Regional Water Quality Control Board	Mitigation measures are recommended to reduce potential impacts to a level that is less than significant. **See Section 7.0 for more information**
Question C. State and federally protected wetlands	Wetlands Unvegetated Waters	Clean Water Act Sections 404/401 Porter Cologne Act	U.S. Army Corps of Engineers U.S. Environmental Protection Agency State Water Resources Control Board Regional Water Quality Control Board	Mitigation measures are recommended to reduce potential impacts to a level that is less than significant. **See Section 7.0 for more information**
Question D. Fish & wildlife corridors	Essential Fish Habitat Wildlife Corridors	California Fish and Game Code Magnuson-Stevens Fishery Conservation & Management Act	California Department of Fish and Wildlife National Marine Fisheries Service	No impact. **See Section 7.0 for more information**
Question E. Local policies	Coastal Zone Resources Protected Trees	Local Tree Ordinance San Mateo County LCP (e.g., Stream & Wetland	San Mateo County California Coastal Commission San Mateo County	Mitigation measures are recommended to reduce potential impacts to a level

[1] CEQA Questions have been summarized here; see Section 6.2 for details.

[2] As given in this report; see Section 5.0 subheadings

CEQA Assessment Category[1] IV. -Biological Resources	Biological Resources Considered	Relevant Laws and Regulations	Responsible Regulatory Agency	Summary of Findings & Report Section[2]
		Setbacks) Local ordinances		that is less than significant. **See Section 7.0 for more information**
Question F. Local, state, federal conservation plans	Habitat Conservation Plans Natural Community Conservation Plans	Federal Endangered Species Act Natural Community Conservation Planning Act	U.S. Fish and Wildlife Service California Department of Fish and Wildlife	No impact. **See Section 7.0 for more information**

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts. Table 1 shows the correlation between these regulations and each Biological Resources question in the Environmental Checklist Form (Appendix G) of the CEQA guidelines.

2.1 Federal and State Regulatory Setting

2.1.1 Aquatic Resources and Sensitive Communities

CEQA provides protections for particular vegetation types defined as sensitive by the California Department of Fish and Game (CDFW), and aquatic communities protected by laws and regulations administered by the U.S Army Corps of Engineers (Corps), State Water Resources Control Board (SWRCB), and Regional Water Quality Control Boards (RWQCB). Additionally, local laws and policies that apply to Environmentally Sensitive Habitat Areas (ESHAs) and project activities in the coastal zone, are enacted by the California Coastal Commission (CCC) and the San Mateo Local Coastal Plan (LCP). The laws and regulations that provide protection for these resources are summarized below.

Waters of the United States, Including Wetlands: The Corps regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as including the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, such as tributaries, lakes and ponds, impoundments of waters of the U.S., and wetlands that are hydrologically connected with these navigable features (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Unvegetated waters including lakes, rivers, and streams may also be subject to Section 404 jurisdiction and are characterized by an ordinary high water mark (OHWM) identified based on field indicators such as the lack of vegetation, sorting of sediments, and other indicators of flowing or standing water. The placement of fill material into Waters of the United States generally requires a permit from the Corps under Section 404 of the CWA.

The Corps also regulates construction in navigable waterways of the U.S. through Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC 403). Section 10 of the RHA requires Corps approval and a permit for excavation or fill, or alteration or modification of the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States. Section 10 requirements apply only to navigable waters themselves, and are not applicable to tributaries, adjacent wetlands, and similar aquatic features not capable of supporting interstate commerce.

Waters of the State, Including Wetlands: The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB and nine RWQCB protect waters within this broad regulatory scope through many different regulatory programs. Waters of the State in the context of a CEQA Biological Resources evaluation include wetlands and other surface waters protected by the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019). The SWRCB and RWQCB issue permits for the discharge of fill material into surface waters through the State Water Quality Certification

Program, which fulfills requirements of Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Clean Water Act permit are also required to obtain a Water Quality Certification. If a project does not require a federal permit but does involve discharge of dredge or fill material into surface waters of the State, the SWRCB and RWQCB may issue a permit in the form of Waste Discharge Requirements.

Section 30121 of the Coastal Act: The California Coastal Commission (CCC)/LCP regulates the diking, filling, or dredging of wetlands within the coastal zone. Section 30121 of the Coastal Act defines "wetlands" as land "which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." The 1981 CCC Statewide Interpretive Guidelines state that hydric soils and hydrophytic vegetation "are useful indicators of wetland conditions," but the presence or absence of hydric soils and/or hydrophytes alone are not necessarily determinative when the CCC identifies wetlands under the Coastal Act.

Sections 1600-1616 of California Fish and Game Code: Streams and lakes, as habitat for fish and wildlife species, are regulated by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream," which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). The term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). Riparian vegetation has been defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Sensitive Natural Communities: Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFW 2021a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2021b). Vegetation alliances are ranked 1 through 5 in the CNDDB based on NatureServe's (2022) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). In addition, this general class includes oak woodlands that are protected by local ordinances under the Oak Woodlands Protection Act and Section 21083.4 of California Public Resources Code.

Environmentally Sensitive Habitat Areas: The California Coastal Act Section 30107.5 defines ESHAs as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Coastal Act Section 30240 protects ESHAs from "significant disruption of habitat values," limits allowable land uses within ESHAs, and requires adjacent uses to be designed to be compatible with habitat benefits provided by ESHAs. The Coastal Act includes wetlands as ESHAs but does not specifically define every vegetation community defined as an ESHA. Instead, the California Coastal Commission (CCC) often delegates the responsibility for administering the California Coastal Act to local

municipalities through the approval of Local Coastal Programs (LCPs). Many LCPs provide more specific lists of communities that are considered ESHAs. More information about ESHAs defined by the local San Mateo County LCP is provided in Section 2.2 below.

2.1.2 Special-status Species

Endangered and Threatened Plants, Fish, and Wildlife. Specific species of plants, fish, and wildlife species may be designated as threatened or endangered by the federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). Specific protections and permitting mechanisms for these species differ under each of these acts, and a species' designation under one law does not automatically provide protection under the other.

The ESA (16 USC 1531 et seq.) is implemented by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of endangered and threatened plant and animal species (referred to as "listed species"). "Proposed" or "candidate" species are those that are being considered for listing, and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to take of any listed species. "Take" under the ESA is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance, and impacts to habitat for listed species. Actions that may result in take of an ESA-listed species may obtain a permit under ESA Section 10, or via the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features "essential to the conservation of the species". Protections afforded to designated critical habitat apply only to actions that are funded, permitted, or carried out by federal agencies. Critical habitat designations do not affect activities by private landowners if there is no other federal agency involvement.

The CESA (CFGC 2050 et seq.) prohibits a take of any plant and animal species that the CFGC determines to be an endangered or threatened species in California. CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to candidate species which are proposed for listing as threatened or endangered under CESA. The definition of a "take" under CESA ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Fully Protected Species and Designated Rare Plant Species. This category includes specific plant and wildlife species that are designated in the CFGC as protected even if not listed under CESA or ESA. Fully Protected Species includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGC. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and conservation purposes. The definition of "take" is the same under the California Fish and Game Code and the CESA. By law, CDFW may not issue an Incidental Take Permit for Fully Protected Species. Under the California Native Plant Protection Act (NPPA), CDFW has listed 64 "rare" or "endangered" plant species, and

prevents "take", with few exceptions, of these species. CDFW may authorize take of species protected by the NPPA through the Incidental Take Permit process, or under a NCCP.

Special Protections for Nesting Birds and Bats. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald eagle [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*)] that in some regards are similar to those provided by the ESA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA.

Species of Special Concern, Movement Corridors, and Other Special-status Species under CEQA. To address additional species protections afforded under CEQA, CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Special Concern. Plant species on the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) with California Rare Plant Ranks (Rank) of 1 and 2, as well as some with a Rank of 3, are also considered special-status plant species and must be considered under CEQA. Some Rank 3 species and all Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

2.2 Local Plans and Policies

San Mateo County Local Coastal Program (LCP)

The San Mateo County LCP (San Mateo County 2013) identifies ESHAs to include, but is not limited to, "riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species." Further, the County LCP defines sensitive habitats as:

> *…any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.*
>
> County LCP (2013), Policy 7.1

For the purposes of this report, WRA has taken into consideration any areas that may meet the definition of any ESHA defined by the San Mateo County LCP.

In areas defined as wetlands, buffer zones must be established according to the following guidelines:

Buffer zones shall extend a minimum of 100 feet landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50 feet only where: (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the State Department of Fish and Game. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.

County LCP (2013), Policy 7.18

Additionally, the County LCP defines Riparian Corridors as a sensitive habitat, where riparian corridors are defined as:

…the "limit of riparian vegetation" (i.e., a line determined by the association of plant and animal species normally found near streams, lakes and other bodies of freshwater: red alder, jaumea, pickleweed, big leaf maple, narrow-leaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and box elder). Such a corridor must contain at least a 50% cover of some combination of the plants listed.

County LCP (2013), Policy 7.7

This County LCP further clarifies in Policy 7.8, that riparian corridors be established for all perennial and intermittent streams, lakes, and other bodies of freshwater in the Coastal Zone. Guidelines for establishing buffer zones are described as:

a. *On both sides of riparian corridors, from the "limit of riparian vegetation" extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams.*
b. *Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams.*
c. *Along lakes, ponds, and other wet areas, extend buffer zones 100 feet from the high water point except for manmade ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.*

County LCP (2013), Policy 7.11

The County LCP defines sea cliffs or coastal bluffs (below) and restricts development in those areas:

"*The area of demonstration of stability includes the base, face, and top of all bluffs and cliffs. The extent of the bluff top considered should include the area between the face of the bluff and a line described on the bluff top by the intersection of a plane inclined at a 20º angle from the horizontal passing through the toe of the bluff or cliff, or 50 feet inland from the edge of the cliff or bluff, whichever is greater*"

"*Permit bluff and cliff top development only if design and setback provisions are adequate to assure stability and structural integrity for the expected economic life span of the development (at least 50 years) and if the development (including storm runoff, foot traffic, grading, irrigation, and septic tanks) will neither create nor contribute significantly to erosion problems or geologic instability of the site or surrounding area".*

County LCP (2013), Hazards Component

The LCP considers The CCC's requirement for Coastal Development Permits (CDP) for new development involving wells within the coastal zone:

> "*Approval of any new private well or development that relies on a new private well may only be considered if a connection to the public water supply is not available. In such instances, the applicant for the development must obtain a coastal development permit (CDP) for a test well, and document compliance with all Environmental Health standards and requirements for the proposed use of the well, prior to submitting a CDP application for the development. The CDP application for the development shall include a report prepared by a California Registered Geologist or Registered Civil Engineer which demonstrates, to the satisfaction of the Environmental Health Director and the Community Development Director, that:*
>
> *i. The yield of the well meets the Standards for Adequate Water as described in the County Well Ordinance and will be adequate to meet the needs of the development for the design life of the development;*
>
> *ii. The water quality meets safe drinking water standards, or will meet such standards with treatment;*
>
> *iii. The well will be sited, designed, and operated in a manner that avoids contamination from any potential pollutant sources; and iv. Operation of the well will, at the level contemplated for the development, avoid individual or cumulative adverse impacts to other wells, or to biological resources including streams, riparian habitats, and wetlands*.".
>
> County LCP (2013), Section 1.19

The LCP lists one sensitive species known to occur near the Study Area: San Francisco garter snake (*Thamnophis sirtalis tetrataenia*; SFGS). Section 7.36 of the LCP states the County will:

> "a. Prevent any development where there is known to be a riparian or wetland location for the San Francisco garter snake with the following exceptions: (1) existing manmade impoundments smaller than one-half acre in surface, and (2) existing manmade impoundments greater than one-half acre in surface providing mitigation measures are taken to prevent disruption of no more than one half of the snake's known habitat in that location in accordance with recommendations from the State Department of Fish and Game.
>
> b. Require developers to make sufficiently detailed analyses of any construction which could impair the potential or existing migration routes of the San Francisco garter snake. Such analyses will determine appropriate mitigation measures to be taken to provide for appropriate migration corridors."

3.0 ASSESSMENT METHODOLOGY

On April 26, 2022, WRA, Inc. (WRA) biologists visited the Study Area to map vegetation, aquatic communities, unvegetated land cover types, document plant and wildlife species present, and evaluate on-site habitat for the potential to support special-status species as defined by CEQA. Prior to the site visit, WRA biologists reviewed literature resources and performed database searches to assess the potential for sensitive biological communities (e.g., wetlands) and special-status species (e.g., endangered plants), including:

- Web Soil Survey, California (USDA 2022)
- Contemporary aerial photographs (Google Earth 2022)
- Historical aerial photographs (NETR 2022)
- National Wetlands Inventory (USFWS 2022a)
- CNDDB (CDFW 2022b)
- CNPS Inventory (CNPS 2022a)
- Consortium of California Herbaria (CCH1 2022, CCH2 2022)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2022b)
- eBird Online Database (eBird 2018)
- CDFW Publication, California Bird Species of Special Concern in California (Shuford and Gardali 2008)
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- A Manual of California Vegetation, Online Edition (CNPS 2022b)
- Preliminary Descriptions of the Terrestrial Natural Communities (Holland 1986)
- Database searches (i.e., CNDDB, CNPS) for special-status species focused on the Davenport, Ano Nuevo, Big Basin, and Franklin Point USGS 7.5-minute quadrangles.

Following the remote assessment, WRA biologists completed a field review to document: (1) land cover types (e.g., terrestrial communities, aquatic resources), (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic natural communities (e.g., wetlands) are present, and (4) if special-status species are present.

3.1 Biological Communities

During the site visit, WRA evaluated the species composition and area occupied by distinct vegetation communities, aquatic communities, and other land cover types. Mapping of these classifications utilized a combination of aerial imagery and ground surveys. In most instances, communities are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the Preliminary Descriptions of the *Terrestrial Natural Communities of California* (Holland 1986) and *A Manual of California Vegetation, Online Edition* (CNPS 2022b). These resources cannot anticipate every component of every potential vegetation assemblage in California, and so in some cases, it is necessary to identify other appropriate vegetative classifications based on best professional judgment of WRA biologists. When undescribed variants are used, it is noted in the description. Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled [S1/G1], imperiled [S2/G2], or vulnerable [S3/G3]) (CDFW 2022a), were evaluated as sensitive as part of this evaluation.

3.2 Sensitive Communities

The Study Area was evaluated for the presence of other sensitive biological communities, including and sensitive plant communities recognized by CDFW or ESHAs under the San Mateo LCP Policies Sections 7.1-7.14. Prior to the site visit, aerial photographs, local soil maps, *A Manual of California Vegetation* (Sawyer et al. 2009), and the LCP were reviewed to assess the potential for sensitive biological communities to occur in the Study Area.

3.3 Aquatic Resources Delineation

The Study Area was reviewed for the presence of wetlands and other aquatic resources regulated by the Corps, RWQCB, and CCC/LCP according to the methods described in the Corps Manual (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West/Western Mountains and Valleys Region*. Areas meeting these indicators were mapped as aquatic resources and categorized using the vegetation community classification methods described above. The boundaries of areas regulated by the Corps and CCC/LCP are often not the same due to the differing goals of the respective regulatory programs and because these agencies use different definitions for determining the extent of wetland areas. For example, the Corps requires that positive indicators for the presence of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation be present for an area to meet the Corps' wetland definition. The CCC does not necessarily require that all three wetland indicators (wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation) be present for an area to be determined to by a "wetland"; rather, the presence of hydric soils in the absence of a predominance of hydrophytes (or vice versa) could be sufficient for a positive wetland determination. The detailed results of the wetland delineation will be included in a separate report.

3.4 Special-status Species Habitat Assessment

WRA plant and wildlife biologists conducted the habitat assessment on the entirety of the Study Area to determine whether habitats containing or supporting rare, endangered, or unique species are present. Potential occurrences of special-status species in the Study Area were evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database review, described above. Presence of suitable habitat for special-status species was evaluated during the April 26, 2022, site visit based on physical and biological conditions of the site as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- **Unlikely.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

- **Present.** Species is observed on the site or has been recorded (i.e., CNDDB, other reports) on the site in the recent past.

The site assessment was intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity in order to determine its potential to occur in the Study Area. Appendix C presents the evaluation of potential for occurrence of each special-status plant and wildlife species known to occur in the vicinity of the Study Area with their habitat requirements, potential for occurrence, and rationale for the classification based on criteria listed above. The BRTR does not constitute a protocol-level wildlife survey and was not intended to determine the actual presence or absence of a wildlife species; however, if a special-status wildlife species was observed during the site visit, its presence was recorded and discussed. A protocol-level special-status plant species survey (rare plant survey) was conducted on April 26, 2022, during the blooming period for all species with a moderate or high potential to occur within the Study Area. A Rare Plant Survey Report with field methods and results will be submitted to support this BRTR; and is discussed in more detail in Section 3.5. If a special-status plant species was observed during the site visit, its presence was recorded and discussed below in Section 5.2.

3.5 Protocol-level Rare Plant Survey

A floristic, protocol-level rare plant survey was conducted concurrent with the April 2022 site assessment. The surveys followed the protocol for rare plant surveys described by CNPS (2001) and CDFW (2018). The timing of the survey corresponded to peak blooming or fruiting periods for observing and accurately identifying plant species in western San Mateo County, including all of the special-status plant species with the potential to occur in the Study Area. The field survey was conducted by two botanists familiar with the flora of seasonal wetlands and coastal scrub habitats of San Mateo County.

3.6 Wildlife Corridors and Native Wildlife Nursery Sites

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010), and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS; CDFW 2021). Additionally, aerial imagery (Google 2022) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as on-site and off-site barriers to connectivity.

The potential presence of native wildlife nursery sites is evaluated as part of the site visit and discussion of individual wildlife species below. Examples of native wildlife nursery sites include nesting sites for native bird species (particularly colonial nesting sites), marine mammal pupping sites, and colonial roosting sites for other species (such as for monarch butterfly [*Danaus plexippus*]).

4.0 ECOLOGICAL SETTING

The approximately 6.5-acre Study Area is located in the unincorporated community of Pescadero in San Mateo County, California. The Study Area is west of Highway 1, bordering the sea cliffs overlooking the Pacific Ocean. The bordering land use includes rural private residences, open land, and State-owned and operated public beach access. The Study Area includes the entire property; additional details of the local setting are below.

4.1 Soils and Topography

The overall topography of the Study Area is relatively flat, sloping slightly west with elevations ranging from approximately 40 to 73 feet above sea level. The Study Area includes steep sea cliffs, which change in elevation from 40 to 1.5 feet above sea level in as short as 30 lateral feet. According to the *Web Soil Survey* (USDA 2022), the Study Area is underlain by three soil mapping units: Elkhorn sandy loam, moderately steep, eroded (EhD2), Elkhorn sandy loam, thick surface, gently sloping (EtB), and terrace escarpments (Ta). Soils within the Study Area are shown in Appendix A – Figure 3 and Figure 3A. The parent soil series of all the Study Area's mapping units are summarized below.

Elkhorn series: This series consists of deep, well drained soils that formed in material weathered from alluvium from mixed rock sources. Elkhorn soils are on coastal terraces and have slopes of 2 to 50 percent. The mean annual precipitation is about 18 inches and the mean annual air temperature is about 58 degrees Fahrenheit (USDA 2003).

Elkhorn sandy loam soil type falls under Capability Unit IIs-3, according to the U.S. Department of Agriculture (USDA) Soil Conservation Service Land Use Capability Classification. The Capability Classification of Elkhorn sandy loam defines the soil as suited to a fairly wide range of crops, but their depth is unfavorable for some deep-rooted plants (WRA 2022). Soils with a Capability Classification of Class I or Class II fall under the definition of Prime Agricultural Lands according to the LCP. Parcels which contain land/ soils suitable for agriculture must be designated as agriculture on the LCP Land Use Plan Map. Permitted uses of prime agricultural land includes the cultivation of foods, fiber, flowers, grazing growing, or pasturing of livestock, etc. The LCP conditionally permits the development of single-family residences on prime agricultural land. The development of a single-family residence on land designated as agriculture requires the conversion of prime agricultural land to a conditionally permitted use and must demonstrate:

1. That no alternative site exists for the use
2. Clearly defined buffer areas are provided between agricultural and non-agricultural uses
3. The productivity of any adjacent agricultural land will not be diminished
4. Public service and facility expansions and permitted uses will not impair agricultural viability, including by increased assessment costs or degraded air and water quality

4.2 Climate and Hydrology

The Study Area is located in the unincorporated community of Pescadero in San Mateo County, California. The average monthly maximum temperature in the area is 64.6 degrees Fahrenheit, while the average monthly minimum temperature is 44.5 degrees Fahrenheit. Predominantly, precipitation falls as rainfall

between November and March with an annual average precipitation of 29.42 inches (WRCC 2022). The Antecedent Precipitation Tool (APT), developed by the US Army Corps, assists in supporting "decisions as to whether field data collection and other site-specific observations occurred under normal climatic conditions". At the time of the site visit, the area was experiencing drier than normal conditions and a Palmer Drought Severity Index (PDSI) classification of severe drought.

The local watershed is Gazos Creek-Frontal Ano Nuevo Bay (HUC 12: 180500060303) and the regional watershed is San Francisco Coastal South (HUC 8: 18050006). The Study Area is located in the central portion of the Gazos Creek-Frontal Ano Nuevo Bay watershed. There are no blue-line streams in the Study Area (NWI 2022). However, because the Study Area is directly adjacent to the Pacific Ocean, the beach, exposed during the low tides is categorized as M2RSN: regularly flooded, high energy coastlines characterized by large boulders or bedrock. Additionally, the Pacific Ocean is classified as N1UBL: permanently flooded, open ocean deepwater habitat (NWI 2022). No other aquatic resources were mapped during the desktop review. Detailed descriptions of aquatic resources are provided in Section 5.1 below.

4.3 Land Use

The Study Area is a regularly mowed, undeveloped, rural parcel of land, adjacent to the Pacific Ocean. It is bordered by Highway 1 and open space to the east, the Pacific Ocean to the west, and rural residences to the north and south. Historical imagery shows the site was used for agricultural purposes during the 1950's (Google Earth 2022; NETR 2022). Agricultural rows/ crops were abandoned around the 1980's. Aerials show the Study Area has been regularly mowed since at least 2006 (Google Earth 2022). Detailed plant community descriptions are included in Section 5.1 below, and all observed plant species are included in Appendix B. Areas to the north and west of the Study Area are developed residential properties, and the property is bordered to the west by the Pacific Ocean and to the east by Highway 1/Cabrillo Highway and undeveloped open space.

Photo 1: Overview of the Study Area. 04/26/2022.

5.0 ASSESSMENT RESULTS

5.1 Biological Communities

Non-sensitive biological communities in the Study Area include planted Monterey cypress stands and coastal scrub. Three ESHAs occur within the Study Area: sea cliffs, scrub shrub wetland, and seasonal wetland. Descriptions for each biological community are contained in the following sections and are illustrated in Figure 4. Acreage summations for biological communities are detailed in Table 2.

TABLE 2. VEGETATION COMMUNITY AND LAND COVER TYPES

COMMUNITY/LAND COVER TYPES	SENSITIVE STATUS[3]	RARITY RANKING	ACRES WITHIN STUDY AREA
Biological Community			
Monterey cypress	Non-sensitive	N/A	0.33
Coastal Bluff Scrub	Non-sensitive	S5/G5	0.42
Northern Coastal Scrub	Non-sensitive	S5/G5	4.39
Sea Cliffs	Sensitive	N/A	0.47
Aquatic Resources			
Scrub shrub wetland	Sensitive	N/A	0.62
Seasonal wetland	Sensitive	N/A	0.29

5.1.1 Terrestrial Land Cover

Non-sensitive Land Cover Types

Monterey Cypress Stand. (No vegetation alliance). CDFW Rank: None.

Monterey cypress (*Hesperocyparis macrocarpa*) stands are found in headlands and sheltered areas near the coast in granitic-derived soils (CNPS 2022b). A stand of planted Monterey cypress is located on the northern boundary of the Study Area and separates the Study Area from the neighboring parcel. This stand is dominated by a canopy of Monterey cypress with a sparse understory. CNPS has protections for natural communities of Monterey cypress, however there are only two known native occurrences of Monterey cypress and they are located in Monterey County.

Photo 2: Monterey cypress in the background, northern coastal scrub in the foreground. 4/26/2022.

[3] Determination based on the *List of California Terrestrial Natural Communities* (CDFG 2010) and the *San Mateo County Local Coastal Program* (County 1998)

Northern Coastal Scrub (*Baccharis pilularis* Shrubland Alliance). CDFW Rank: S5/G5.
Coastal scrub communities are located extensively along the entire length of the California coastline. These communities are dominated by native shrubs tolerant of frequent and often high winds, salt spray, and extended cloud cover in summer months (Holland 1986). One vegetation alliance was documented within the northern coastal scrub in the Study Area: coyote brush (*Baccharis pilularis*) scrub (CNPS 2022b). Coyote brush scrub is a mixed community dominated by coyote brush and a mixture of native and non-native forbs. Within the Study Area, coyote brush was the dominant species with both poison oak (*Toxicodendron diversilobum*) and Pacific blackberry (*Rubus ursinus*) in the overstory. Other species in this community included soap plant (*Chlorogalum pomeridianum*), yarrow (*Achillea millefolium*), four seeded vetch (*Vicia tetrasperma*), and brome fescue (*Festuca bromoides*). The Study Area was recently mowed at the time of the site visit, resulting in disturbed habitat conditions as evidenced by an abundance of Bermuda buttercup (*Oxalis pes-caprae*) cover and overall reduction in cover of native plant species. Rush species including *Juncus patens* and *J. hesperius* were abundant, but their cover is representative of the mowed, un-natural conditions of the site and not indicative of wetland conditions. It is presumed if they site were left un-mowed, coyote brush would dominate and shade out the grasses, herbs, and forbs currently found within the area. A narrow, un-mowed strip on the south edge of the site, included in this biological community, is characterized by coyote brush and Pacific blackberry and also included multiple yellow bush lupine (*Lupinus arboreus*) individuals and common velvet grass (*Holcus lanatus*) in the understory.

Coastal Bluff Scrub (*Baccharis pilularis* Shrubland Alliance). CDFW Rank: S5/G5. Coastal bluff scrub is located in the interface between the sea cliffs and the mowed northern coastal scrub. Although it is part of the same vegetation alliance as northern coastal scrub, the composition of the community is significantly different. This community is un-mowed and characterized by a narrow band of generally short, dense vegetation. The dominate shrub is coyote brush mixed with an overstory of coastal bush lupine (*Lupinus arboreus*) and poison oak, with an understory of herbs including soap plant and Douglas iris (*Iris douglasiana*).

Sensitive Land Cover Types

Photo 3: Sea cliffs at the western boundary of the Study Area. 4/26/2022.

Sea Cliffs. (No Vegetation Alliance). CDFW Rank: None.
Sea cliffs occur along the western perimeter of the Study Area. As defined by the CCC/LCP, a sea cliff is a scarp or steep face of rock, weathered rock, sediment, or soil resulting from marine erosion, faulting, folding, or excavation of the land mass. The cliff or bluff may be simple planar or curved surface or it may be step-like in section. Sea Cliffs are subject to CCC/LCP jurisdiction as an ESHA.

5.1.2 Aquatic Resources

Scrub-Shrub Wetland. (No vegetation alliance). CDFW Rank: None.
Scrub-shrub wetland communities are dominated by woody vegetation less than twenty feet tall. They typically occur within or adjacent to stream channels, along seasonally flooded arroyos, or in depressional areas located close to ground water. Within the Study Area, this community occurs as a dense, wind-pruned willow (*Salix lasiolepis*, FACW) thicket in a depressional area along a coastal bluff near the southwestern boundary in the Study Area. This community may be regulated by CDFW jurisdiction as riparian vegetation and CCC/LCP jurisdiction as ESHA and a one-parameter wetland.

Seasonal Wetland. (No vegetation alliance). CDFW Rank: None.
The seasonal wetland within the Study Area intergrades closely with northern coastal scrub. Wetland-adapted plant species including softrush (*Juncus effusus,* FACW), common rush (*Juncus patens*, FACW), sedges (*Carex sp*.), hedge nettle (*Stachys ajugoides*, OBL), and occasional wax myrtle (*Morella californica,* FACW) occur on flat to slightly concave topography in association with upland (non-wetland) Northern coastal scrub species including coyote brush and soap plant. Due to the co-dominance of wetland and upland species, portions of this community may satisfy the dominance test for hydrophytic vegetation and meet the CCC/LCP's one-parameter wetland criteria. Areas where saturation was observed may also meet the Corps' three-parameter wetland criteria. A more accurate determination of seasonal wetlands will be concluded in the Wetland Delineation Report (WRA 2022) using the results of the formal delineation of the Study Area conducted on April 26, 2022. Seasonal wetlands are likely subject to the Corps and RWQCB jurisdiction as Waters of the U.S./State. Seasonal wetlands and any identified coastal seasonal wetlands are subject to CCC/LCP jurisdiction as an ESHA.

5.2 Special-status Species

5.2.1 Special-status Plants

Based upon a review of the resource databases listed in Section 3.0, 66 special-status plant species have been documented in the vicinity of the Study Area. Ten of these species were considered to have the potential to occur in the Study Area, and two were observed during field surveys. The remaining species documented from the greater vicinity are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., riverine) necessary to support the special-status plant species are not present in the Study Area;
- Edaphic (soil) conditions (e.g., serpentine, clay) necessary to support the special-status plant species are not present in the Study Area;
- Topographic conditions (e.g., montane) necessary to support the special-status plant species are not present in the Study Area;
- Associated natural communities (e.g., coniferous forest, woodlands, prairies, coastal dunes, meadows, vernal pools) necessary to support the special-status plant species are not present in the Study Area;
- The Study Area is geographically isolated (e.g., below elevation) from the documented range of the special-status plant species;
- Land use history and contemporary management (e.g., mowing) has degraded the localized habitat necessary to support the special-status plant species.

WRA biologists conducted a protocol-level rare plant survey on April 26, 2022, a period sufficiently timed to identify all special-status plant species with the potential to occur. Two special-status plants were identified in the Study Area during protocol-level surveys: Choris' popcornflower (*Plagiobothrys chorisianus* var. *chorisianus)*, CRPR 1B.2 and Harlequin lotus (*Hosackia gracilis*), CRPR 4. Detailed results of this survey can be found in the Rare Plant Report, to be submitted after this report.

Harlequin lotus (*Hosackia gracilis*). CRPR 4. Moderate Potential. Harlequin lotus is a perennial forb in the pea family (Fabaceae) that blooms from March to July. It typically occurs in wetlands or ditches in broadleaf upland forest, coastal bluff scrub, coastal scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, meadow and seep, marsh and swamp, North Coast coniferous forest, and valley and foothill grassland habitats at elevations ranging from 0 to 2,295 feet (CNPS 2022). Known associated species include coyote brush, little rattlesnake grass (*Briza minor*), blue-eyed grass (*Sisyrinchium bellum*), western rush (*Juncus occidentalis*), sky lupine (*Lupinus nanus*), big heron bill (*Erodium botrys*), scarlet pimpernel (*Lysimachia arvensis*), and common velvet grass (CCH1 2022). Figure 5 depicts the location of the individuals of harlequin lotus found within the Study Area.

Choris popcornflower (*Plagiobothrys chorisianus* var. *chorisianus*, CRPR 1B.2). Moderate Potential. Choris popcornflower is an annual herb in the borage family (Boraginaceae) that blooms March through June. It typically occurs in mesic niches within chaparral, coastal prairie, non-native grassland, and coastal scrub at elevations range 9 to 420 feet (CNPS 2022b). Known associated species include coast live oak, coyote bush, seaside daisy, common spikerush, bristly oxtongue, harlequin lotus, and Chilean rabbitsfoot grass (*Polypogon australis*). Choris popcorn flower is known from Alameda, Monterey, Santa Clara, Santa Cruz, San Francisco, San Mateo counties (CNPS 2022b). Figure 5 depicts the location of the populations of Choris' popcornflower found within the Study Area.

California Rare Plant Rank 1A, 1B, and 2 plants consist of individuals that may qualify for listing by state and federal agencies. As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the California Fish and Game Code. CRPR 3 and 4 species are considered to be plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2001).

5.2.2 Special-status Wildlife

Of the 25 special-status wildlife species documented in the vicinity of the Study Area, most are excluded from the Study Area based on a lack of habitat features. Features not found within the Study Area that are required to support special-status wildlife species include:

- Vernal pools;
- Perennial aquatic habitat (e.g. streams, rivers or ponds);
- Tidal marsh areas;
- Old growth redwood or fir forest;
- Serpentine soils to support host plants;
- Sandy beaches or alkaline flats;
- Presence of specific host plants; and
- Dead trees, caves, mine shafts, or abandoned buildings.

The absence of such habitat features eliminates components critical to the survival or movement of most special-status species found in the vicinity. For instance, the California black rail *(Laterallus jamaicensis coturniculus)* is an obligate salt marsh species and has no potential to occur within the Study Area as there is no salt marsh present.

One special status species has a moderate potential to occur within the Study Area: San Francisco common yellowthroat. Other species may occur, but it is unlikely. These species are discussed in greater detail below.

<u>San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*), CDFW Species of Special Concern</u>**.** San Francisco (saltmarsh) common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging; and prefers willows for nesting (Shuford and Gardali 2008). Although this species is typically associated with nesting near open water, the willow riparian habitat within the Study Area is suitable for nesting by this species. There is a moderate potential for this species to nest within the riparian habitat in the Study Area.

Photo 4: Seasonal wetland depression. Potential non-breeding habitat within the Study Area. 4/26/2022.

Special-status wildlife species unlikely within the Study Area, but potentially in adjacent habitat:

<u>California red-legged frog (*Rana draytonii*). Federal Threatened, CDFW Species of Special Concern.</u> California red-legged frog is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, these frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still, or slow-moving water. Breeding occurs between late November and late April. This species estivates (a period of inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds. There is a seasonal wetland within the Study Area which could provide potential aquatic habitat, however, burrows on site were not near the wetland area nor were they abundant. The proximity to the coast makes the site an unlikely destination for dispersal habitat because the nearest flowing freshwater sources are a mile north and more than a mile south. However, the Study Area is adjacent to properties with suitable habitat for this species: cattle/stock ponds. Traversing highway 1 is a dangerous endeavor that may reduce the likelihood of CRLF dispersing into the Study Area for use of aquatic habitat. However, non-breeding habitat and dispersal habitat could be present in the Study Area. There is a low potential that CRLF will use the Study Area during or after rain events or heavily foggy events. Critical habitat, habitat elements, and nearby occurrences of CRLF to the Study Area are discussed further in Section 5.2.3.

American badger (*Taxidea taxus*), CDFW Species of Special Concern. American badgers are most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils and open, uncultivated ground. This species preys on burrowing rodents. The Study Area is adjacent to the coast and covered by heavy mist in the mornings, reducing the likelihood that the soils would be suitable for habitat. The Study Area is not within the known occurrences for the species nor does it connect habitatbetween known ranges. There was a documented sighting about one mile south of the Study Area; a result of a vehicular collision in 2015. No badgers were observed during the site visits and burrows found within the Study Area were not large enough to indicate the presence of dens . Therefore, it is unlikely that American badgers traverse through or use burrows within the Study Area.

Monarch butterfly (*Danaus plexippus*). CDFW Roost Protected. Winter roost sites for monarch butterflies extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind protected tree groves, with nectar and water sources nearby. They are often on south, southwest, or west facing slopes which may provide more favorable temperature regimes and protection from the wind (Leong et al. 2004). Monarch butterflies typically arrive in mid-October to overwintering sites along the California coast and remain until late February or March (Jepsen et al. 2015). No documented roosts are known within the Study Area. Potentially suitable winter roost sites exist for this species in the Monterey cypress stands within the Study Area; however, roost sites are typically in more sheltered locations further inland from the coastline. Monarch butterflies were not observed within the Study Area. In addition, roosting by monarchs was not observed in the Monterey cypress stand within the Study Area.Also, no foraging habitat is present within the Study Area. But, because the Monterey cypress stands are exposed and monarchs were not observed roosting during the site visits, monarch butterflies are considered unlikely to establish winter roost sites on the Study Area.

San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). Federal Endangered, State Endangered, CDFW Fully Protected Species. Historically, San Francisco garter snake (SFGS) occurred in scattered wetland areas on the San Francisco Peninsula, approximately from the San Francisco County line to the Santa Cruz Mountains. SFGS occurred along the eastern and western bases of the Santa Cruz Mountains as far as Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County. This species prefers a densely vegetated pond near open hillsides where they can sun, feed, and find cover in rodent burrows. However, less ideal habitats can also be successfully occupied; including temporary ponds and other seasonal freshwater habitats. There is no standing water in the Study Area to provide aquatic habitat for breeding or non-breeding activities. However, the Study Area is adjacent to several cattle ponds and a manmade drainage along Highway 1, all of which are within the historical range with known occurrences for SFGS. The nearest occurrences in CNDDB, without having the locations disclosed, are in San Gregorio (2008) and Ano Nuevo (2015), in a freshwater pond on agriculture lands. Therefore, due to the lack of the habitat available, it is unlikely that San Francisco garter snake will establish within the Study Area. Habitat elements for SFGS within the Study Area are discussed further in Section 5.2.3.

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), CDFW Species of Special Concern. San Francisco dusky-footed woodrat occurs in the Coast Ranges between the San Francisco Bay and the Salinas River (Matocq 2003). Occupied habitats are variable and include forest, woodland, riparian areas, and chaparral. Woodrats feed on woody plants, but will also consume fungi, grasses, flowers, and acorns. Foraging occurs on the ground and in bushes and trees. This species constructs robust stick houses/structures in areas with moderate cover and a well-developed understory containing woody debris. Breeding takes place from December to September. Individuals are active year-round and are generally nocturnal. The Monterey cypress stand within the Study Area does not contain understory

vegetation and is unlikely to be used by woodrats based upon lack of suitable vegetation and proximity to sea spray from the coast. No woodrat houses were observed in the Monterey cypress stand during the site visits. There is scrub shrub riparian habitat present in the Study Area that could provide some refuge, however, no woodrat houses were observed within the Project Area. Therefore, this species unlikely to establish in the riparian scrub habitats within the Project Area.

Western bumble bee (*Bombus occidentalis)*. USFWS Sensitive Species. The western bumble bee has two subspecies, the subspecies *B. o. occidentalis* is distributed from the southern part of British Columbia to central California. These bees were once widely distributed, but they population numbers are quickly declining due to pathogens and insecticides. This species uses urbanized environments as well as agricultural lands, farmlands, mixed woodlands, montane meadows, and western edges or prairie grassland for habitat. The mixed grassland and nearby agricultural lands adjacent to the Study Area provides suitable foraging habitat for this species. Western bumblebee could opportunistically forage within the Study Area.

5.2.3 Rare, Unique, and Endangered Species Habitat

California Red-legged Frog

California red-legged frog (CRLF) was listed as federally threatened on May 23, 1996 (61 FR 25813-25833). Critical habitat for CRLF was designated on April 13, 2006 (71 FR 19243-19346), and the revised designation was finalized March 17, 2010 (75 FR 12815-12959). A Recovery Plan for the CRLF was published by the USFWS on May 28, 2002. The Study Area falls within USFWS-designated Critical Habitat unit SNM-2 (USFWS 2010).

There are four primary constituent elements (PCEs) that are considered essential for the conservation or survival of CRLF (USFWS 2010):

1. aquatic breeding habitat;
2. non-breeding aquatic habitat;
3. upland habitat; and
4. dispersal habitat.

The Study Area contains dispersal habitat and is 0.3 to 0.8 miles away from suitable aquatic breeding and non-breeding habitat. The PCEs are discussed in greater detail below.

Aquatic Breeding and Non-breeding Habitat

Aquatic breeding habitat consists of low-gradient freshwater bodies, including natural and manmade (e.g., stock) ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds. It does not include deep water habitat, such as lakes and reservoirs. Aquatic breeding habitat must hold water for a minimum of 20 weeks in most years. This is the average amount of time needed for egg, larvae, and tadpole development and metamorphosis so that juveniles can become capable of surviving in upland habitats (USFWS 2010).

Aquatic non-breeding habitat may or may not hold water long enough for this species to hatch and complete its aquatic life cycle, but it provides shelter, foraging, predator avoidance, and aquatic dispersal

for juvenile and adult CRLF. These waterbodies include plunge pools within intermittent creeks, seeps, quiet water refugia during high water flows, and springs of sufficient flow to withstand the summer dry period. CRLF can use large cracks in the bottom of dried ponds as refugia to maintain moisture and avoid heat and solar exposure (Alvarez 2004). Non-breeding aquatic features enable CRLF to survive drought periods and to disperse to other aquatic breeding habitat (USFWS 2010).

There is no potential for aquatic breeding and minimal potential for aquatic non-breeding habitat within the Study Area. According to CNDDB (2022) Arroyo de los Frijoles Creek and Lake Lucerne, 0.8 and 0.9 miles northeast of the Study Area contain the nearest aquatic habitat for breeding and non-breeding

Upland Habitat

Upland habitats include areas adjacent to aquatic and riparian habitats, and are comprised of grasslands, woodlands, and/or vegetation that provide shelter, habitat for foraging, and predator avoidance. These upland features provide feeding and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitats usually include structural features such as boulders, rocks and organic debris (e.g. downed trees, logs), as well as small mammal burrows and moist leaf litter (USFWS 2010).

The Study Area contains sparse, low-growing vegetation and no burrows or cracks that could support CRLF. Although the Study Area is within a 1-mile radius of Lake Lucerne and Arroyo de los Frijoles Creek, there is no suitable cover for CRLF to use as refugia or for foraging; therefore, the Study Area does not contain the necessary habitat elements to serve as upland habitat.

Dispersal Habitat

Dispersal habitat is accessible upland or riparian areas between occupied locations within 0.7 mi of each other that allow for movement between these sites. Dispersal habitat includes various natural and altered habitats such as agricultural fields, which do not contain barriers to dispersal. Moderate to high density urban or industrial developments, large reservoirs, and heavily traveled roads without bridges or culverts are considered barriers to dispersal (USFWS 2010).

Dispersal distances are typically less than 0.5 miles, with a few individuals moving in excess of one mile (Fellers and Kleeman 2007). Movements typically occur along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers and Kleeman 2007). Bulger et al (2003) documented dispersing frogs in northern Santa Cruz County traveling distances from 0.25 miles to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors.

The nearest documented occurrence of CRLF was found less than 0.8-mile south of the Study Area near Spring Breach Gulch (CDFW 2022). The lack of vegetative cover poses a high risk for CRLF dispersing through Study Area. Furthermore, CRLF are only likely to move through the Study Area under appropriate weather conditions, such as rainy nights. The Study Area is outside of mapped critical habitat for CRLF, but it has the potential to provide dispersal habitat.

San Francisco Garter Snake

San Francisco Garter Snake (SFGS) requires seasonal or permanent water bodies as a basic habitat requirement. In addition to the basic requirement of a water source, there are four main habitat requirements for SFGS (USFWS 2006b):

- freshwater marsh habitat with a diversity of habitat components including dense vegetation near the pond edge and open water;
- basking sites upland of the water;
- food sources for all life stages of the snake; and
- shallow water near the shoreline, providing access to food sources.

During the summer, snakes may disperse from the typical vegetated aquatic-edge habitat into adjacent areas to feed on amphibians or to hibernate in rodent burrows. Typically, SFGS utilize upland rodent burrows, including Botta's pocket gopher *(Thomomys bottae)* and California meadow vole *(Microtus californicus)*, within several hundred feet of their aquatic habitat (McGinnis 2001, USFWS 2006). Literature suggests that lowland rodent burrows are not utilized for hibernation due to the potential for flooding (McGinnis 2001).

During periods of heavy rain or shortly after, SFGS may make long-distance movements of up to 1.25 miles along drainages within dense riparian cover and are not documented to travel over open terrain (McGinnis 2001).

There are no occurrences of SFGS within five miles of the Study Area; however, occurrence information is confidential and exact locations cannot be disclosed in public documents. Based on this occurrence information and habitat conditions, it is likely that SFGS use creeks in San Gregorio such as Pomponio Creek as a dispersal corridor. However, the Study Area does not contain suitable habitat elements for SFGS, such as aquatic habitat, vegetative cover, or prey items. The burrows found were outside of the Study Area and may not be of sufficient size for SFGS to occupy, were not within a few hundred feet of foraging grounds (vegetated ponds). The nearest potential foraging pond for SFGS is 0.3 miles east of the Study Area. In addition, SFGS is unlikely to use the Study Area for refuge or basking because of the high levels of disturbance from vegetation mowing.

Although the Study Area does not contain any of the main habitat requirements of SFGS, the Study Area is in close proximity to Arroyo de los Frijoles and several potential foraging ponds within 1.25 miles. Therefore, SFGS has the potential to disperse along the Arroyo de los Frijoles riparian corridor but is unlikely to pass through or reside within the Study Area.

5.3 Wildlife Corridors and Native Wildlife Nursery Sites

The Study Area is part of a large natural habitat area, but no native wildlife nursery sites are present in the Study Area.

Wildlife movement between suitable habitat areas can occur via open space areas lacking substantial barriers. The terms “landscape linkage” and “wildlife corridor” are often used interchangeably when referring to these areas. The key to a functioning corridor or linkage is that it connects two larger habitat

blocks, also referred to as core habitat areas (Beier and Loe 1992; Soulé and Terbough 1999). It is useful to think of a "landscape linkage" as being valuable in a regional planning context, a broad scale mapping of natural habitat that functions to join two larger habitat blocks. The term "wildlife corridor" is useful in the context of smaller, local area planning, where wildlife movement may be facilitated by specific local biological habitats or passages and/or may be restricted by barriers to movement. Above all, wildlife corridors must link two areas of core habitat and should not direct wildlife to developed areas or areas that are otherwise void of core habitat (Hilty et al. 2019).

Photo 5. Site adjacent to Highway 1 is a scenic corridor (but not a wildlife corridor). 4/26/2022.

According to CalTrans and the San Mateo LCP, the Study Area is not within a designated wildlife corridor. The site is located within a much larger tract of lightly developed land within a rural portion of the San Mateo County coast. While common wildlife species presumably utilize the site to some degree for movement at a local scale, the Study Area itself does not provide corridor functions beyond connecting similar land parcels in surrounding areas.

6.0 ANALYTICAL METHODOLOGY AND SIGNIFICANCE THRESHOLD CRITERIA

Pursuant to Appendix G, Section IV of the State CEQA Guidelines, a project would have a significant impact on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These thresholds were utilized in completing the analysis of potential project impacts for CEQA purposes. For the purposes of this analysis, a "substantial adverse effect" is generally interpreted to mean that a potential impact could directly or indirectly affect the resiliency or presence of a local biological community or species population. Potential impacts to natural processes that support biological communities and special-status species populations that can produce similar effects are also considered potentially significant. Impacts to individuals of a species or small areas of existing biological communities may be considered less than significant if those impacts are speculative, beneficial, de minimis, and/or would not affect the resiliency of a local population.

7.0 IMPACTS AND MITIGATION EVALUATION

Using the CEQA analysis methodology outlined in Section 6.2 above, this impact assessment evaluates impacts that may occur as a result of potential future site development, and is based on the significance thresholds and methodology discussed above in Section 6.0. Because no specific project has been proposed at this time and a site plan has not been prepared, the following impacts and mitigation evaluation is provided at a conceptual level to guide future planning efforts. Recommended impact avoidance, minimization and mitigation measures in this section are subject to change following preparation of a site plan.

7.1 Special-status Species

This section analyzes the Project's potential impacts and mitigation for special-status species in reference to the significance threshold outlined in CEQA Appendix G, Part IV (a):

> *Does the project have the potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

<u>California Red-legged Frog and San Francisco Garter Snake</u>

California red-legged frog and SFGS have low to unlikely potential to inhabit the Study Area because of the absence of preferred habitat components and distance from suitable and/or occupied habitats. However, because of the suitability of nearby habitats, these species, although unlikely, may on occasion disperse through the Study Area under certain conditions. No suitable breeding habitat is present within the Study Area; however, CRLF or SFGS may occasionally disperse through the Study Area. WRA recommends the following impact avoidance and minimization measures (AMMs) be implemented to avoid take of CRLF and SFGS.

AMM BIO-1: California Red-legged Frog and San Francisco Garter Snake

- All ground disturbance activities shall be restricted to the dry season (April 15 through October 15) when all habitats have dried to reduce potential for CRLF and SFGS to disperse through the Study Area.
- A qualified biologist shall survey the work site immediately before the onset of vegetation clearing or ground disturbance activities to verify if species are present and all if habitats are dry. If CRLF are found and do not move out of the work area on their own, USFWS shall be contacted to determine if relocation is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, a USFWS-approved biologist will be allowed sufficient time to move the species from the work site before work activities begin. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored by the biologist to ensure they do not reenter the work area.
- Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area will be distributed to all employees working within the Study Area. The original list of employees who attend the training sessions will be

maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.

- The contractor shall designate a person or employee to monitor on-site compliance with all minimization measures. The on-site monitor(s) will be on-site daily for the duration of the Project, including vegetation removal, grading and clean-up activities.
- All vehicles and equipment associated with work-activities will be parked or staged only within designated staging areas at the end of each workday or when not in use to minimize habitat disturbance and water quality degradation.
- Wildlife exclusion fencing would be erected and maintained around the project construction staging areas, to prevent SFGS and CRLF from entering staging areas overnight.
- Installation of fencing will be performed under the supervision of a qualified biologist.
- No work shall occur within 48 hours of a rain event (over 0.25 inch in a 24-hour period). Following a rain event, a qualified biologist shall survey the work site immediately before reinitiating ground disturbance activities to verify if species are present. If CRLF or SFGS are observed, then the steps previously described for the initial pre-construction survey shall be followed.
- Any erosion control materials used shall be made of tightly woven fiber netting or similar material to ensure that the CRLF and SFGS do not get trapped. This limitation will be communicated to the contractor. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material shall not be used at the Study Area because CRLF, SFGS, and other species may become entangled or trapped in it.
- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Study Area.
- Any fueling and maintenance of equipment shall be conducted off-site and at least 50 feet from any wetland or designated ESHA.
- CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped. Therefore, all construction pipes, culverts, or similar structures that are stored at the site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site monitor and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. It is also recommended these structures, if stored, are kept within off the ground by being placed on pallets within the staging areas either in developed areas or within wildlife exclusion fencing. If CRLF are found and do not move out of the work area on their own, USFWS shall be contacted to determine if relocation is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, a USFWS-approved biologist will be allowed sufficient time to move them from the work site before work activities begin. If SFGS is found, it shall be allowed to passively leave the work area on its own, as determined by the on-site monitor, unless in circumstances where the animal is determined to be trapped as discussed below.
- Furthermore, to prevent inadvertent entrapment of CRLF or SFGS during construction, the on-site monitor and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than one foot deep are completely covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager.
- If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, the animal shall be allowed to passively leave the work area on its own, as determined by the onsite

biologist. If a CRLF or SFGS is trapped, only a USFWS-approved biologist shall move the individual under the direction of USFWS and CDFW. The biologist will also report these findings, as required, to appropriate the agencies.

Special-Status Wildlife Species and Other Nesting Bird Species

One special-status bird species, San Francisco (saltmarsh) common yellowthroat could be impacted by site development. In addition, any other species protected under the Migratory Bird Act is included in this measure. Impacts to these species and their eggs, chicks, and young could occur during the removal of vegetation or other ground-disturbing activities. These activities could result in the direct removal or destruction of active nests, as well as indirect nest abandonment due to audible and vibratory and/or visual disturbances. Potential impacts to nesting San Francisco common yellowthroat and any other nesting bird species through the direct removal/destruction of active nests would be considered significant under CEQA. WRA recommends implementation of the following avoidance and minimization measure (AMM) to avoid impacts to nesting birds.

AMM BIO-2: Special-Status Wildlife Species and Other Nesting Bird Species
Pre-construction surveys for avian species are recommended for Project activities that must occur during the nesting bird season (March 1 through July 31). If active nests (containing eggs, chicks or young) are discovered during pre-construction surveys, a qualified biologist would establish a species-specific no-work buffer around the active nest. Project activities may be postponed until the conclusion of the nesting season, or the biologist may perform follow-up checks to determine whether the nest is still active. A nesting bird management plan may be prudent to establish a programmatic approach to nest surveys, buffer size, duration, and may include other abatement or attenuation recommendations that might allow for size reductions in the exclusion buffers, or other such measures satisfactory to the lead agency to reduce the impacts to a less than significant level.

Special-Status Plant Species

Of the 66 special-status plant species known to occur in the vicinity of the Study Area, two were observed in the Study Area on April 26, 2022, during their documented blooming periods: harlequin lotus and Choris' popcorn flower. If complete avoidance to special-status species is infeasible, mitigation may be required by the CCC and the County. WRA recommends implementation of the following measure to avoid, minimize, and mitigate potential impacts to special-status plant species.

AMM BIO-3: Special-Status Plants

- Choris popcorn flower: WRA recommends designing future site plans to avoid the Choris' popcorn flower population within the Study Area. If avoidance is not feasible, prior to any construction activity within the Study Area, Choris' popcorn flower seeds would be collected from the planned limit of disturbance and planted in other suitable habitat areas. This mitigation program would be coordinated with and commenced to the satisfaction of the County prior to the initiation of construction.
- Harlequin lotus: WRA recommends designing future site plans to avoid the harlequin lotus population within the Study Area. If avoidance is not feasible, prior to any construction activity within the Study Area, harlequin lotus seeds would be collected from the planned limit of disturbance and planted in other suitable habitat areas. This mitigation program would be

coordinated with and commenced to the satisfaction of the County prior to the initiation of construction.

7.2 Sensitive Natural Communities and Land Cover Types

This section addresses the question:

> *b) Does the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*

Sensitive natural communities within the Study Area include sea cliffs, scrub shrub wetland, and seasonal wetland.

Wetlands

The scrub shrub wetland could be classified as a riparian corridor in the LCP due to the dominance of arroyo willows. However, setbacks for riparian corridors are related to stream classification, and the scrub shrub wetland will be regulated under the wetland category which contains more stringent setbacks and regulations. The San Mateo County LCP establishes a wetland setback of 100 feet or 50 feet where no alternative development site or design is possible. Impacts to both the seasonal wetland and scrub shrub wetland will be mitigated through AMM BIO-5 to a level that is ***less than significant***.

Sea Cliffs

Sea cliffs are designated ESHA's by the LCP and CCC. Sea cliffs are located on the western border of the Study Area shown in Figure 4. Where nesting or roosting bird activity exists within the sea cliffs, only education and research activities are permitted. If nesting or roosting does not exist, road and underground utility and intake or outfall lines are permitted where no feasible alternative exists.

> **AMM BIO-4: Sea cliffs**
> Sea cliffs will be avoided as part of the project. The applicant will submit engineered drawings demonstrating that the project avoids CCC/LCP regulated sensitive habitat areas to the County for review and approval. A setback of at least 50 feet will be provided to protect public land, based on local geology and erosion rates Loss of sea cliffs due to Project activities will be reduced to a ***less than significant*** level with the implementation of Mitigation Measure BIO-4.

7.3 Aquatic Resources

This section analyzes the Project's potential impacts and recommends mitigation measures for wetlands and other areas presumed or determined to be within the jurisdiction of the Corps in reference to the significance threshold outlined in CEQA Appendix G, Part IV (c):

> *c) Does the Project have the potential to have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

Seasonal wetlands and scrub-shrub wetlands are subject to the jurisdiction to the Corps and RWQCB under the federal Clean Water Act. Impacts to potential seasonal wetlands within the Study Area would

likely require a Corps Section 404 Permit and RWQCB Section 401 Water Quality Certification. Lastly, because the Study Area is within the Coastal Zone, wetlands as defined through CCC, are only required to meet one of three wetland indicators: hydrophytic vegetation, hydrology, and hydric soils. This is referred to as the one-parameter test, and it is explained in greater detail in the Wetland Delineation Report (WRA 2022).

AMM BIO-5: State and Federally Protected Wetlands and Waters
It is recommended that any future development be designed, to the maximum extent feasible, to avoid impacts to state and federally protected wetlands. If impacts to seasonal wetlands regulated by the Corps/RWQCB cannot be avoided, then a CWA Section 404 permit would need to be obtained prior to site development. In addition, the project proponent would be required to submit to the RWQCB an application for Section 401 Water Quality Certification. Lastly, because the Study Area is within the

Impacts to more than 0.5 acres of wetlands would trigger the need for an individual Section 404 permit from the Corps. As part of the permitting process, both the Corps and the RWQCB would require the preparation of a Clean Water Act 404(b)(1) Alternatives Analysis and the project would need to demonstrate that the proposed site plan is the "Least Environmentally Damaging Practicable Alternative" or LEDPA. The term "practicable" in this context means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose. The preparation of an Alternatives Analysis requires coordination between several different subject matter experts including environmental consultants and permitting specialists, civil engineers, developers, economists, and land use attorneys. The Corps and RWQCB would likely want to see one or more project alternatives that would reduce impacts to wetlands. An individual permit, as a federal action, will require National Environmental Protection Act (NEPA) compliance, which is typically fulfilled through the preparation of an Environmental Assessment (EA); however, projects with larger impacts sometimes require the preparation of a more detailed Environmental Impact Statement (EIS). The Corps would not make a decision on NEPA compliance until after receiving comments on the public notice issued by the Corps. Additionally, the RWQCB and CDFW would not issue permits for the project until the project has complied with the California Environmental Quality Act (CEQA).

Impacts to jurisdictional wetland features typically require compensatory mitigation at a minimum 1:1 ratio on a functions and values basis ("no net loss"); however, the final wetland mitigation requirements are determined by the regulatory agencies during the permitting process. Required mitigation ratios can be met by creating and enhancing wetlands on-site or off-site (may require a higher than 1:1 replacement to impacts ratio) or purchasing wetland credits from a wetland mitigation bank. Purchase of mitigation credits would be subject to approval and verification by Corps and RWQCB. The project proponent would be required to prepare a mitigation plan to be submitted with the agency permit applications that provides detailed information about the bank, and how this approach will result in no net loss of wetlands. The plan would be prepared pursuant to, and through consultation with, the Corps and RWQCB. As conditions of permit approval, impact minimization measures may also be required and could include implementation of best management practices (i.e., erosion and sediment control measures) and seasonal work restrictions, as appropriate.

These permits will be acquired, and all conditions will be agreed to prior to project construction. The project proponent will be responsible for complying with all conditions outlined in the applicable Corps and RWQCB permits.

Prior to construction, a Stormwater Pollution Prevention Plan (SWPPP) should be developed for the Project and all measures included in the SWPPP should be implemented during all phases of construction, as appropriate. The SWPPP should include measures for spill prevention and cleanup, as well as erosion control measures to be utilized throughout all phases of the Project where sediment runoff from construction may potentially enter waters.

Implementation of this mitigation measure would reduce impacts to state and federal protected wetlands and waters to levels considered ***less than significant***.

7.4 Wildlife Corridors and Native Wildlife Nursery Sites

This section analyzes the Project's potential impacts and mitigation for habitat corridors and linkages in reference to the significance threshold outlined in CEQA Appendix G, Part IV (d):

> *d) Does the Project have the potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*

As noted in Section 5.3, the Study Area does not provide a native wildlife nursery, lacking the necessary components to maintain species of special concern in their breeding and non-breeding seasons. There is little connectivity within the Study Area provided between areas of suitable habitat. If standing water is sufficient to last longer than a couple of weeks, a stopover for migratory birds or other terrestrial wildlife can occur, however, it is unlikely. For aquatic species, all portions of the Study Area are within a greater context of rural grassland and light development, with only drainage ditches providing connectivity between the Study Area and upstream freshwater habitats. No impact will occur to migratory corridors for terrestrial and aquatic species and impacts to wildlife corridors as a result of the Project is considered ***less than significant***.

7.5 Local Policies and Ordinances

This section analyzes the potential impacts and mitigation based on conflicts with local policies and ordinances in reference to the significance threshold outlined in CEQA Appendix G, Part IV (e):

> *e) Does the Project have the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;*

Local plans and policies related to biological resources examined in this analysis are:

- San Mateo County (County) Midcoast Local Coastal Program (LCP): Sensitive Habitats Component, including Policies 7.1-7.19
- San Mateo County General Plan

The County's LCP is a subset of the County General Plan, and the two documents are internally consistent. The following sections describe policies by which a potential future development in the Study Area would be evaluated for consistency with the LCP. The LCP is more specific than the General Plan with regard to issues raised by a project, and therefore also addresses a project's consistency with the County's General Plan.

Project Components- Wells

Discussed in Section 2.2 Local Plans and Policies, The San Mateo County LCP and CCC requires a Coastal Development Permit before any new construction or drilling of a well can occur.

Wetlands

As discussed in the Assessments Results section 5.0, seasonal wetlands, scrub-shrub wetlands, and sea cliffs are ESHAs subject to the jurisdiction to the CCC and County LCP. Impacts to these sensitive habitats within the Study Area would require a coastal development permit (CDP) through the CCC and County. Further, work within buffers of potential seasonal wetlands may also require a CDP through the CCC and County. The CCC and County LCP generally prohibit land use or development that would have significant adverse impact on ESHAs. The County LCP defines specific criteria for allowable development areas in ESHAs, requires ESHA impacts to be minimized to the maximum extent feasible through siting and design, requires that mitigation measures implemented where impacts to ESHAs may occur. A 100-foot minimum buffer is typically required surrounding wetlands by the County LCP code. This setback may be reduced only where (1) no alternative development site or site design is possible and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County. It is recommended that potential future development avoid impacting these sensitive habitats. However, if avoidance of these features is not feasible, standard impact minimization and mitigation measures are provided in section 7.2 and mitigated through AMM BIO-5.

Sea Cliffs

The Study Area is bound by sea cliffs and coastal bluffs along the western boundary, which are subject to LCP policies pertaining to sensitive habitats. Specifically, policy 7.31 outlines the following development standards pertaining to cliffs and bluffs:

a) Restrict pedestrian traffic in bluff and cliff areas and on faces to a limited number of well-defined trails which avoid seabird nesting and roosting sites.
b) Post signs informing recreational users not to disturb natural vegetation or nesting and roosting sites.

The Visual Resources Component of the LCP contains policies specific to the protection of these natural features.

a) Prohibit development on bluff faces except public access stairways where deemed necessary and erosion control structures which are in conformity with coastal policies on access and erosion
b) Set back bluff top development and landscaping from the bluff edge (i.e., decks, patios, structures, trees, shrubs, etc.) sufficiently far to ensure it is not visually obtrusive when viewed from the shoreline except in highly developed areas where adjoining development is nearer the bluff edge, or in special cases where a public facility is required to serve the public safety, health, and welfare.

It is recommended that potential future development avoid impacting these sensitive habitats. However, if avoidance of these features is not feasible, standard impact minimization and mitigation measures are provided in section 7.2 and mitigated through AMM BIO-4.

Special-Status Species

The confirmed or potential presence of special-status species is discussed in section 5.0. Two special-status plant species were observed in the Study Area and two special-status wildlife species have the potential to be present. Standard protection measures to avoid impacting special-status wildlife species are provided in section 7.1 and mitigated through AMM BIO-1 and BIO-2. The LCP's development standards discourage development within 50 feet of any special-status plant population. However, LCP Policy 7.42 (Development Standards) states that when no feasible alternative exists, the County will allow development if: (1) the site or a significant portion thereof is returned to a natural state to allow for the reestablishment of the plant, or (2) a new site is made available for the plant to inhabit. Standard protection measures to avoid impacting special-status plant species are also provided in section 7.1 and mitigated through AMM BIO-3.

Trees

The Study Area contains mature Monterey Cypress trees that may be protected by the County's Significant Tree Ordinance and Heritage Tree Ordinance. The Visual Resources Component of the LCP contains Policy 8.9 specific to tree protection:

a) Locate and design new development to minimize tree removal.
b) Employ the regulations of the Significant Tree Ordinance to protect significant trees (38 inches or more in circumference) which are located in urban areas zoned Design Review (DR).
c) Employ the regulations of the Heritage Tree Ordinance to protect unique trees which meet specific size and locational requirements.
d) Protect trees specifically selected for their visual prominence and their important scenic or scientific qualities.
e) Prohibit the removal of trees in scenic corridors except by selective harvesting which protects the existing visual resource from harmful impacts or by other cutting methods necessary for development approved in compliance with LCP policies and for opening up the display of important views from public places, i.e., vista points, roadways, trails, etc.
f) Prohibit the removal of living trees in the Coastal Zone with a trunk circumference of more than 55 inches measured 4 1/2 feet above the average surface of the ground, except as may be permitted for development under the regulations of the LCP, or permitted under the Timber Harvesting Ordinance, or for reason of danger to life or property.
g) Allow the removal of trees which are a threat to public health, safety, and welfare

7.6 Habitat Conservation Plans

This section analyzes the Project's potential impacts and mitigation based on conflicts with any adopted local, regional, and state habitat conservation plans in reference to the significance threshold outlined in CEQA Appendix G, Part IV (f):

> *f) Does the Project have the potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The Study Area is not located within the plan area of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan and therefore would not have the potential to conflict with any such plans.

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APPENDIX A – FIGURES

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Sources: ESRI Topo, WRA | Prepared By: njander, 5/31/2022

Figure 1. Study Area Regional Location Map

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

0 0.25 0.5 Miles

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Sources: San Mateo County Imagery 2018, | Prepared By: njander, 5/31/2022

Figure 2. Aerial Photograph of Study Area

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

0 25 50
Feet

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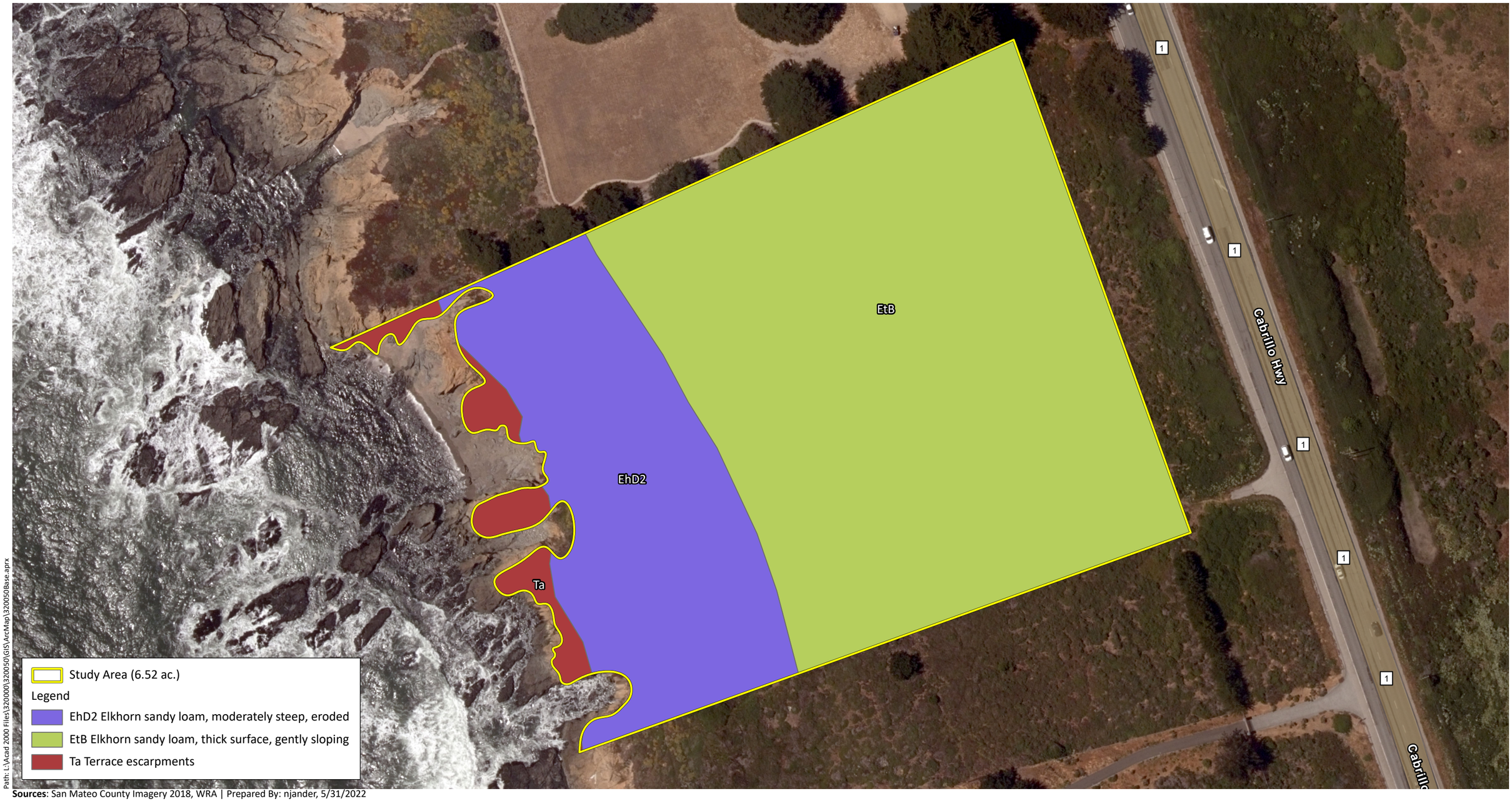

Sources: San Mateo County Imagery 2018, WRA | Prepared By: njander, 5/31/2022

Figure 3. Map of Soils within the Study Area

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

0 25 50 Feet

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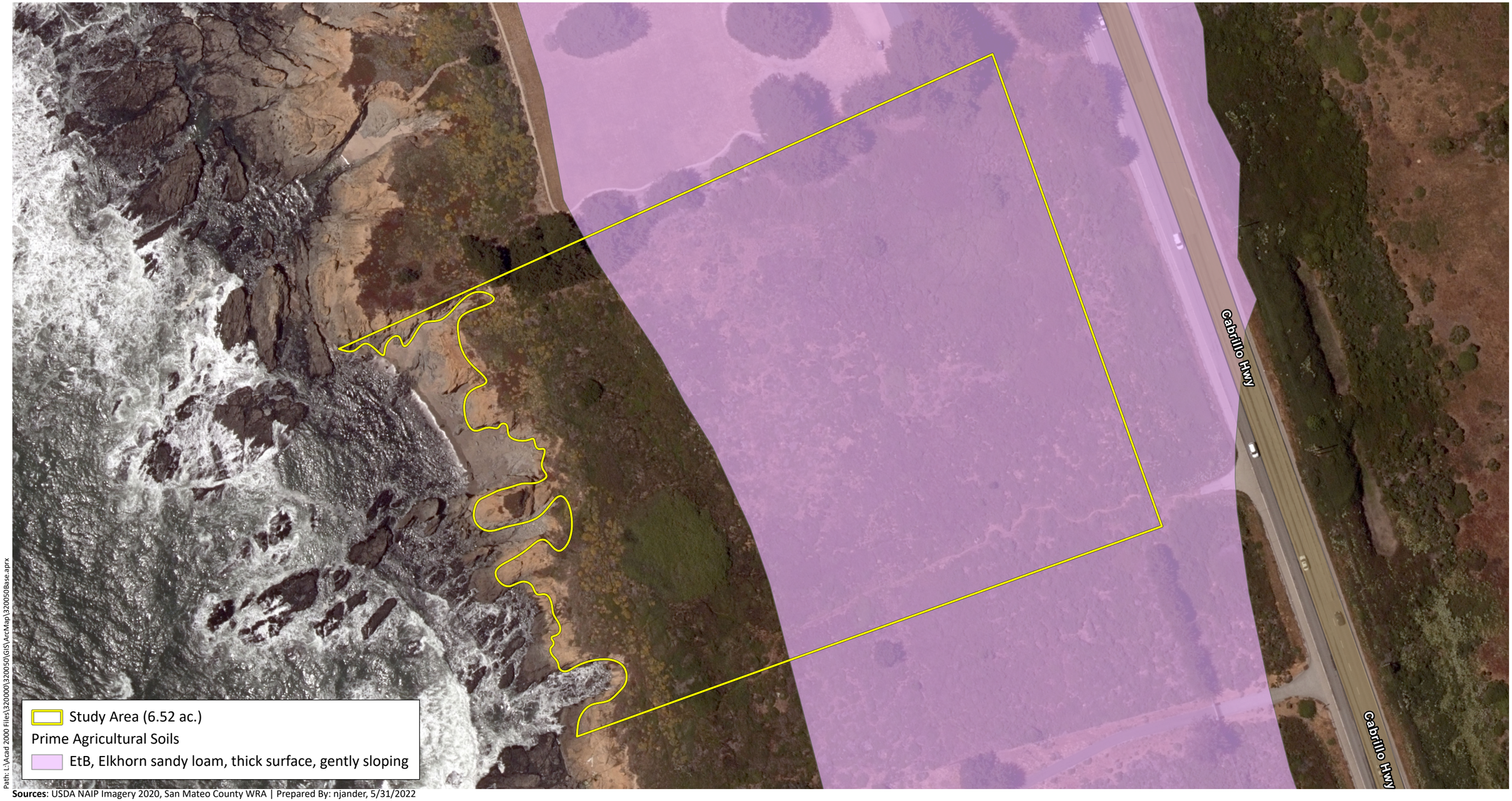

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Sources: USDA NAIP Imagery 2020, San Mateo County WRA | Prepared By: njander, 5/31/2022

Figure 3a. San Mateo County Prime Soils

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

0 25 50
Feet

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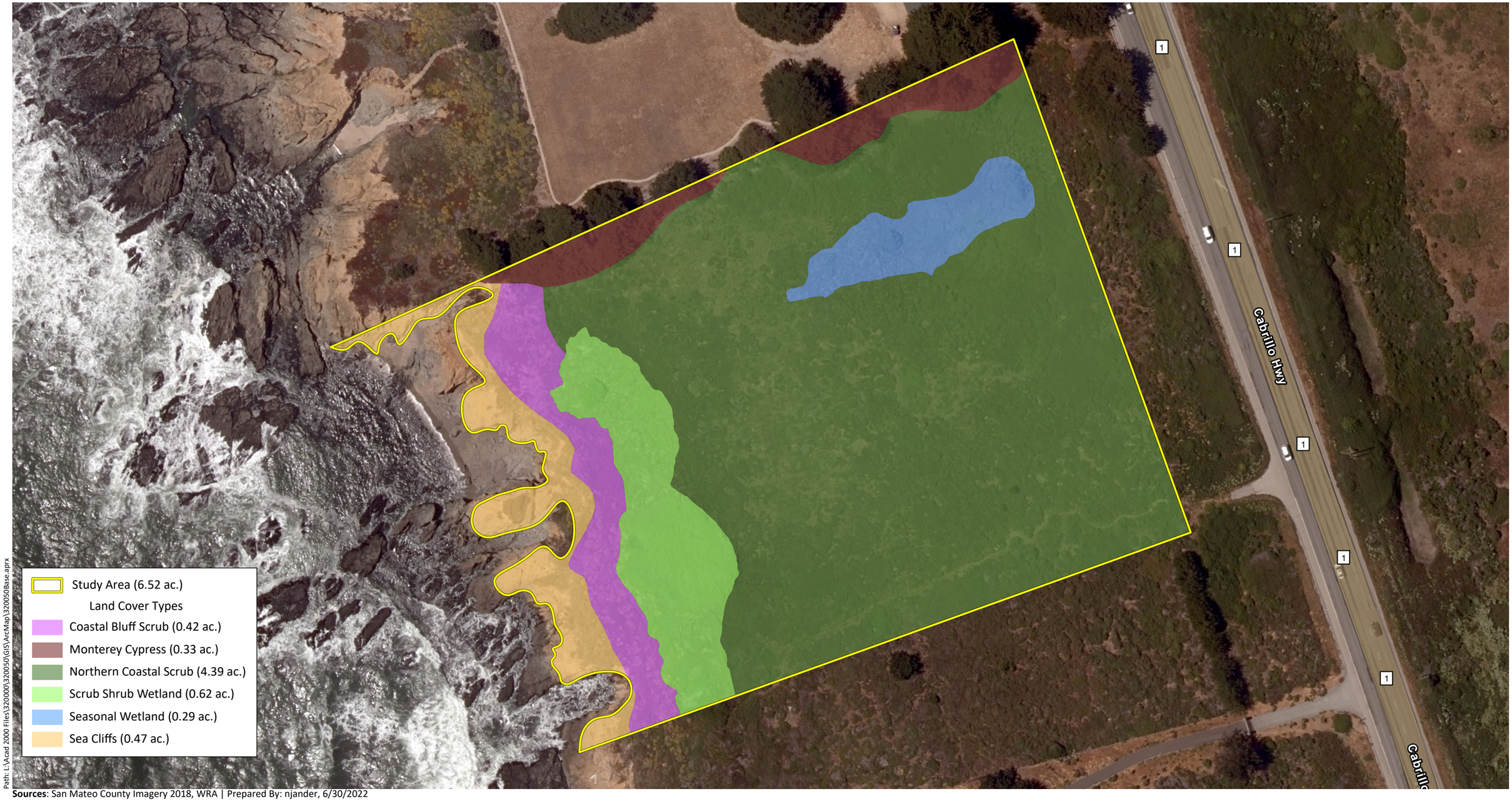

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Sources: San Mateo County Imagery 2018, WRA | Prepared By: njander, 6/30/2022

Figure 4. Land Cover Types within the Study Area

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

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Figure 5. Observed Special-status Plant Species in the Study Area

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

0 25 50 Feet

N

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ID	Type	Acres	Linear Feet
SSW01	Scrub Shrub Wetland	0.62	N/A
SW01	Seasonal Wetland	0.29	N/A

-122.406116, 37.210698

-122.404656, 37.210617

P05

P04

P03

SW01

SSW01

P08

P02

P01

P06

P07

Cabrillo Hwy

1

Study Area (6.52 ac.)

Sample Point

Control Point

Contour 1ft

100 Foot Setback

Potential Jurisdictional Aquatic Features

Corps/RWQCB/CCC Jurisdictional Scrub Shrub Wetland (0.62 ac.)

Corps/RWQCB/CCC Jurisdictional Seasonal Wetland (0.29 ac.)

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Sources: San Mateo County Imagery 2018, 2016 USGS Lidar: West Coast El Nino WRA | Prepared By: njander, 6/30/2022

Figure 6. Potential Jurisdictional Aquatic Features Located within the Study Area

0 25 50 Feet

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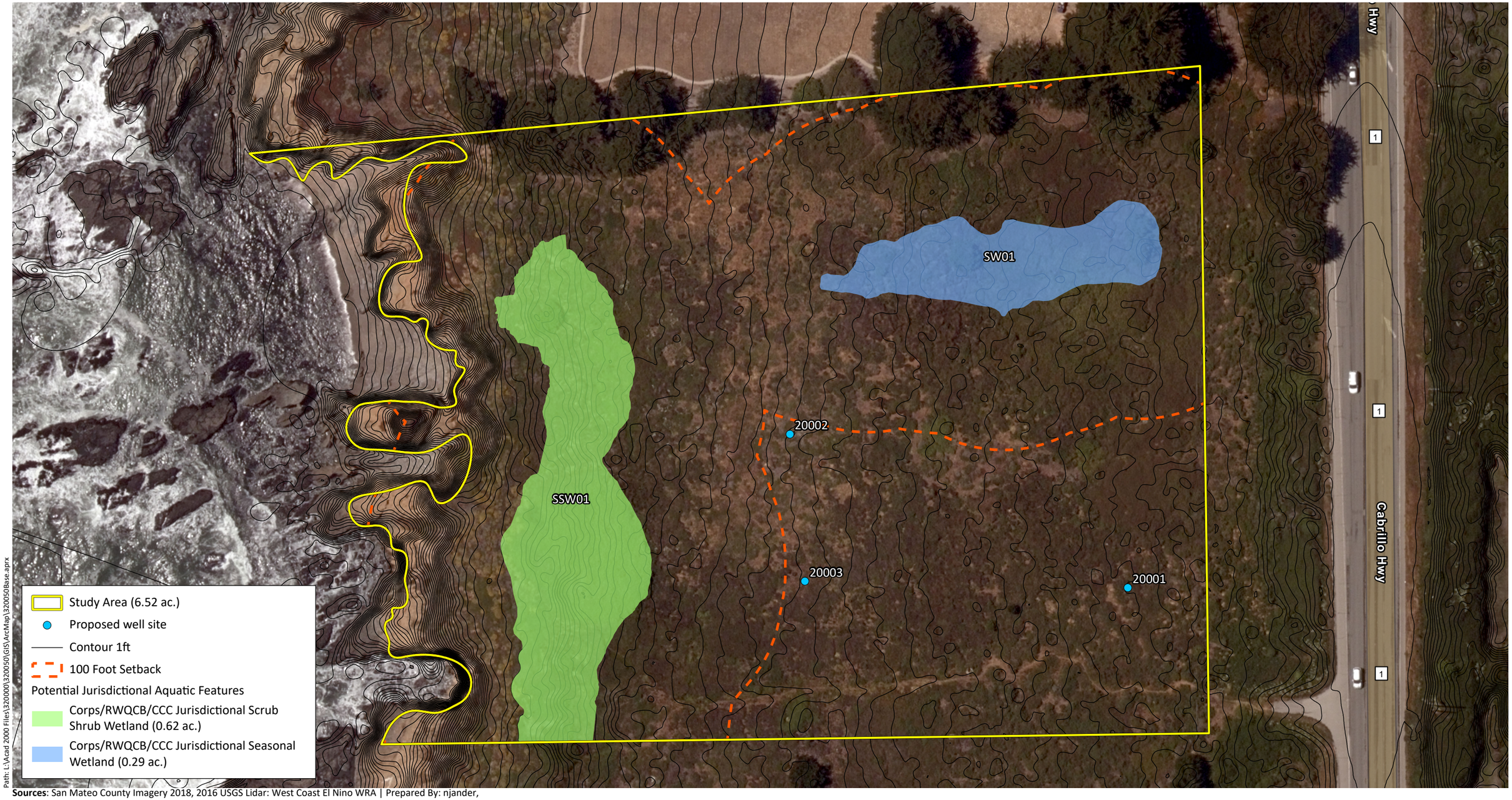
Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)



Sources: San Mateo County Imagery 2018, 2016 USGS Lidar: West Coast El Nino WRA | Prepared By: njander, 7/6/2022

Figure 7. Map of Proposed Well Sites

Younger Property Assessment
(APNs 087-250-140, 087-250-150, and 087-250-160)

0 25 50 Feet

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APPENDIX B – SPECIES OBSERVED IN AND AROUND THE STUDY AREA

Appendix B. Plant Species Observed in the Study Area, April 26, 2022.

Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator (AW 2020)[3]
Achillea millefolium	Yarrow	native	perennial herb	-	-	FACU
Acmispon wrangelianus	Chilean trefoil	native	annual herb	-	-	-
Aira caryophyllea	Silvery hairgrass	non-native	annual grass	-	-	FACU
Angelica hendersonii	Henderson's angelica	native	perennial herb	-	-	-
Armeria maritima ssp. *californica*	Sea thrift	native	perennial herb	-	-	FACU
Artemisia pycnocephala	Beach sagewort	native	perennial herb	-	-	-
Avena barbata	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
Baccharis pilularis ssp. *consanguinea*	Coyote brush	native	shrub	-	-	-
Baccharis pilularis ssp. *pilularis*	Coyote brush	native	shrub	-	-	-
Brassica rapa	Common mustard	non-native (invasive)	annual herb	-	Limited	FACU
Briza maxima	Rattlesnake grass	non-native (invasive)	annual grass	-	Limited	-
Briza minor	Little rattlesnake grass	non-native	annual grass	-	-	FAC
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
Bromus rubens	Red brome	non-native (invasive)	annual grass	-	High	UPL
Cardamine hirsuta	Hairy bitter cress	non-native	annual herb	-	-	FACU
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-
Carex barbarae	Valley sedge	native	perennial grasslike herb	-	-	FAC
Carex densa	Dense sedge	native	perennial grasslike herb	-	-	OBL
Carpobrotus chilensis	Sea fig	non-native (invasive)	perennial herb	-	Moderate	FACU
Carpobrotus edulis	Iceplant	non-native (invasive)	perennial herb	-	High	-

Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator (AW 2020)[3]
Cerastium glomeratum	Large mouse ears	non-native	annual herb	-	-	UPL
Chasmanthe floribunda	Chasmanthe	non-native	perennial herb	-	Watch	-
Chlorogalum pomeridianum	Amole	native	perennial herb	-	-	-
Cirsium occidentale	Western thistle	native	perennial herb	-	-	-
Cirsium vulgare	Bullthistle	non-native (invasive)	perennial herb	-	Moderate	FACU
Clinopodium douglasii	Yerba buena	native	perennial herb	-	-	FACU
Cotula coronopifolia	Brass buttons	non-native (invasive)	perennial herb	-	Limited	OBL
Daucus pusillus	Wild carrot	native	annual herb	-	-	-
Distichlis spicata	Salt grass	native	perennial grass	-	-	FAC
Dudleya farinosa	Sea lettuce	native	perennial herb	-	-	-
Elymus glaucus	Blue wildrye	native	perennial grass	-	-	FACU
Erigeron glaucus	Seaside daisy	native	perennial herb	-	-	FACU
Eriogonum latifolium	Coast buckwheat	native	perennial herb	-	-	-
Eriophyllum staechadifolium	Lizard tail	native	perennial herb	-	-	-
Eschscholzia californica	California poppy	native	annual, perennial herb	-	-	-
Festuca bromoides	Brome fescue	non-native	annual grass	-	-	FACU
Festuca myuros	Rattail sixweeks grass	non-native (invasive)	annual grass	-	Moderate	FACU
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
Frangula californica	California coffeeberry	native	shrub	-	-	-
Galium aparine	Cleavers	native	annual herb	-	-	FACU
Gamochaeta ustulata	Featherweed	native	annual herb	-	-	-
Geranium dissectum	Wild geranium	non-native (invasive)	annual herb	-	Limited	-
Grindelia stricta	Gumweed	native	perennial herb	-	-	FACW
Hesperocyparis macrocarpa	Monterey cypress	native	tree	Rank 1B.2	-	-

Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator (AW 2020)[3]
Holcus lanatus	Common velvetgrass	non-native (invasive)	perennial grass	-	Moderate	FAC
Hosackia gracilis	Harlequin lotus	native	perennial herb	Rank 4.2	-	FACW
Hypochaeris radicata	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
Iris douglasiana	Douglas iris	native	perennial herb	-	-	-
Isolepis cernua	Low bulrush	native	annual grasslike herb	-	-	OBL
Juncus effusus	Common bog rush	native	perennial grasslike herb	-	-	FACW
Juncus hesperius	Coast rush	native	perennial grasslike herb	-	-	FACW
Juncus patens	Common rush	native	perennial grasslike herb	-	-	FACW
Juncus phaeocephalus	Brown headed rush	native	perennial grasslike herb	-	-	FACW
Koeleria macrantha	June grass	native	perennial grass	-	-	-
Leucanthemum vulgare	Oxe eye daisy	non-native (invasive)	perennial herb	-	Moderate	UPL
Linum bienne	Narrow-leaved flax	non-native	annual herb	-	-	-
Lotus corniculatus	Bird's foot trefoil	non-native	perennial herb	-	-	FAC
Lupinus arboreus	Coastal bush lupine	native	shrub	-	-	-
Lupinus littoralis var. *variicolor*	Varied lupine	native	shrub	-	-	-
Lysimachia arvensis	Scarlet pimpernel	non-native	annual herb	-	-	FAC
Lythrum hyssopifolia	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL
Medicago polymorpha	Bur clover	non-native (invasive)	annual herb	-	Limited	FACU
Morella californica	California wax myrtle	native	shrub	-	-	FACW
Myosotis discolor	Forget me not	non-native	annual herb	-	-	FAC
Oxalis pes-caprae	Bermuda buttercup	non-native (invasive)	perennial herb	-	Moderate	-

Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator (AW 2020)[3]
Parapholis incurva	Sickle grass	non-native	annual grass	-	-	FACU
Parentucellia viscosa	Yellow glandweed	non-native (invasive)	annual herb	-	Limited	FAC
Plagiobothrys chorisianus var. *chorisianus*	Choris's popcorn flower	native	annual herb	Rank 1B.2	-	OBL
Plantago coronopus	Cut leaf plantain	non-native	annual herb	-	-	FAC
Plantago lanceolata	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC
Plantago maritima	Maritime plantain	native	perennial herb	-	-	FACW
Polycarpon tetraphyllum var. *tetraphyllum*	Four leaved allseed	non-native	annual herb	-	-	-
Polygonum paronychia	Dune knotweed	native	perennial herb	-	-	-
Polypodium sp.	Polypody fern	Native	perennial herb	-	-	-
Polystichum munitum	Western sword fern	native	fern	-	-	FACU
Potentilla anserina	Silver weed cinquefoil	native	perennial herb	-	-	OBL
Pseudognaphalium stramineum	Cottonbatting plant	native	perennial herb	-	-	FAC
Rubus ursinus	California blackberry	native	vine, shrub	-	-	FAC
Rumex acetosella	Sheep sorrel	non-native (invasive)	perennial herb	-	Moderate	FACU
Rumex crispus	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
Rumex salicifolius	Willow leaved dock	native	perennial herb	-	-	FACW
Salix lasiolepis	Arroyo willow	native	tree, shrub	-	-	FACW
Sanicula crassicaulis	Pacific sanicle	native	perennial herb	-	-	-
Scrophularia californica	California bee plant	native	perennial herb	-	-	FAC
Senecio vulgaris	Common groundsel	non-native	annual herb	-	-	FACU
Sidalcea malviflora	Wild hollyhock	native	perennial herb	-	-	FACW
Silene gallica	Common catchfly	non-native	annual herb	-	-	-
Sisyrinchium californicum	California golden eyed grass	native	perennial herb	-	-	FACW
Sonchus oleraceus	Common sow thistle	non-native	annual herb	-	-	UPL

Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator (AW 2020)[3]
Spergularia marina	Salt sand spurry	native	annual herb	-	-	OBL
Stachys bullata	Southern hedge nettle	native	perennial herb	-	-	-
Symphyotrichum chilense	Pacific aster	native	perennial herb	-	-	FAC
Toxicodendron diversilobum	Poison oak	native	vine, shrub	-	-	FACU
Vicia sativa	Spring vetch	non-native	annual herb, vine	-	-	FACU
Vicia tetrasperma	Four seeded vetch	non-native	annual herb	-	-	-
Viola adunca ssp. *adunca*	Western dog violet	native	perennial herb	-	-	FAC
Wyethia angustifolia	Narrow leaved mule ears	native	perennial herb	-	-	FACU
Zantedeschia aethiopica	Callalily	non-native (invasive)	perennial herb	-	Limited	OBL

All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2022]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2022] or Inventory of Rare and Endangered Plants (CNPS 2022). Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1] **California Native Plant Society. 2022. Inventory of Rare and Endangered Plants (online edition, v9-01 1.5). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: April 2022.**

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2] **California Invasive Plant Council. 2022. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: http://www.cal-ipc.org/paf/; most recently accessed: April 2022.**

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3] **U.S. Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH. Online at: http://wetland-plants.usace.army.mil/**

OBL:	Almost always found in wetlands
FACW:	Usually found in wetlands
FAC:	Equally found in wetlands and uplands
FACU:	Usually not found in wetlands
UPL:	Almost never found in wetlands
NL:	Not listed, assumed almost never found in wetlands
NI:	No information; not factored during wetland delineation

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APPENDIX C – SPECIAL-STATUS SPECIES POTENTIAL TABLE

Appendix C. Potential for Rare Plant Species to Occur in the Study Area. List compiled from database searches for the Pigeon Point, San Gregorio, Franklin Point, La Honda, and Año Nuevo U.S. Geological Survey 7.5-minute Quadrangles in the California Natural Diversity Database (CDFW 2022) and the California Native Plant Society Inventory of Rare and Endangered Plants of California (CNPS 2022b).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
Blasdale's bent grass *Agrostis blasdalei*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms May-Jul.	**High Potential.** The Study Area contains potentially suitable coastal bluff scrub habitat. A small number of individuals of an unknown species of grass that vegetatively resembles this species was observed in coastal bluff scrub in the Study Area; however, the identity of this species could not be confirmed because the plants were not flowering at the time of the April 26, 2022, site visit.	Although the identity of the plants in question was not confirmed, the plants occur adjacent to sea cliff habitat, within a 50-foot setback where no development will occur. As such, no further actions are recommended for this species.
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**Unlikely.** Cismontane woodland and grassland habitats are absent from the Study Area. Coastal bluff scrub is present, but the nearest occurrence is 12 miles south of the Study Area. Additionally, this species was not observed during the April 26, 2022, survey, which occurred during the blooming period of this species. As such, this species is assumed to absent from the Study Area	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Anderson's manzanita *Arctostaphylos andersonii*	Rank 1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Elevation ranges from 195 to 2495 feet (60 to 760 meters). Blooms Nov-May.	**No Potential.** Broadleaved upland forest, chaparral, and North Coast coniferous forest are absent from the Study Area.	No further actions are recommended for this species.
Schrieber's manzanita *Arctostaphylos glutinosa*	Rank 1B.2	Closed-cone coniferous forest and chaparral habitats on diatomaceous shale substrate. Elevation ranges from 560 to 2245 feet (170 to 685 meters). Blooms Mar-Apr (Nov).	**No Potential.** Diatomaceous shale substrate is absent from the Study Area	No further actions are recommended for this species.
Kings Mountain manzanita *Arctostaphylos regismontana*	Rank 1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Elevation ranges from 1000 to 2395 feet (305 to 730 meters). Blooms Dec-Apr.	**No Potential.** This species occurs on granitic or sandstone outcrops, which are absent from the Study Area.	No further actions are recommended for this species.
ocean bluff milk-vetch *Astragalus nuttallii var. nuttallii*	Rank 4.2	Coastal bluff scrub, coastal dunes. Elevation ranges from 10 to 395 feet (3 to 120 meters). Blooms Jan-Nov.	**Moderate Potential.** Potentially suitable coastal bluff scrub habitat is present in the Study Area. However, this perennial species is conspicuous year-round, and none were observed during the April 26, 2022, survey. As such, this species is assumed to be absent from the Study Area.	**Not Observed.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
coastal marsh milk-vetch *Astragalus pycnostachyus var. pycnostachyus*	Rank 1B.2	Coastal dunes, coastal scrub, marshes and swamps. Elevation ranges from 0 to 100 feet (0 to 30 meters). Blooms (Apr)Jun-Oct.	**Moderate Potential.** Potentially suitable mesic coastal scrub habitat is present in the Study Area. However, a reference site was visited on April 26, 2022, prior to the site visit, and this species was observed. It was not blooming, but it is distinct and readily identifiable vegetatively. This species was not observed in the Study Area and is assumed to absent from the Study Area.	**Not Observed.** No further actions are recommended for this species.
johnny-nip *Castilleja ambigua var. ambigua*	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug.	**High Potential.** Potentially suitable coastal bluff scrub habitat is present, and the nearest occurrence is approximately 1.5 miles north-northwest of the Study Area. However, this perennial species was not observed during the April 26, 2022, survey, and is assumed to be absent from the Study Area.	**Not Observed.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Monterey Coast paintbrush *Castilleja latifolia*	Rank 4.3	Cismontane woodland, closed-cone coniferous forest, coastal dunes, coastal scrub. Elevation ranges from 0 to 605 feet (0 to 185 meters). Blooms Feb-Sep.	**No Potential.** This species is known from loose, sandy substrate, which is absent from the Study Area	No further actions are recommended for this species.
Franciscan thistle *Cirsium andrewsii*	Rank 1B.2	Broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.	**Unlikely.** The Study Area contains potentially suitable mesic areas in coastal scrub and coastal bluff scrub, but the closest occurrence is 7 miles south of the Study Area, and it is historical and has not been verified. The nearest verifiable occurrence is in San Francisco.	No further actions are recommended for this species.
San Francisco collinsia *Collinsia multicolor*	Rank 1B.2	Closed-cone coniferous forest, coastal scrub. Elevation ranges from 100 to 900 feet (30 to 275 meters). Blooms (Feb)Mar-May.	**Unlikely.** Closed-cone coniferous forest habitat is absent. Coastal scrub habitat is disturbed by periodic mowing, which reduces habitat quality. The nearest occurrence of this species is approximately 10 miles southeast of the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
mountain lady's-slipper *Cypripedium montanum*	Rank 4.2	Broadleaved upland forest, cismontane woodland, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 605 to 7300 feet (185 to 2225 meters). Blooms Mar-Aug.	**No Potential.** Broadleaved upland forest, cismontane woodland, and coniferous forest habitats are absent from the Study Area. This species is known from dry, undisturbed slopes, and such habitat is absent from the Study Area.	No further actions are recommended for this species.
western leatherwood *Dirca occidentalis*	Rank 1B.2	Broadleaved upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar (Apr).	**No Potential.** Broadleaved upland forest, chaparral, cismontane woodland, coniferous forest, riparian forest, and riparian woodland habitats. The nearest occurrence of this species is 10 miles northeast of the Study Area.	No further actions are recommended for this species.
California bottle-brush grass *Elymus californicus*	Rank 4.3	Broadleaved upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug (Nov).	**Unlikely.** The Study Area is characterized primarily by open, sunny habitats, which are unsuitable for this species. The scrub-shrub wetland is too wet and densely vegetated to support this species. The Monterey cypresses are planted and not true forested habitat and are therefore unlikely to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
San Mateo woolly sunflower *Eriophyllum latilobum*	FE, SE, Rank 1B.1	Cismontane woodland, coastal scrub, lower montane coniferous forest. Elevation ranges from 150 to 1085 feet (45 to 330 meters). Blooms May-Jun.	**Unlikely.** Woodland and coniferous forest habitats are absent from the Study Area. Most of the coastal scrub is disturbed by periodic mowing, which reduces habitat quality. The nearest reported occurrence is approximately 7 miles northeast of the Study Area, on the other side of the Santa Cruz Mountains ridgeline, and the identity of this occurrence is in question.	No further actions are recommended for this species.
Jepson's coyote-thistle *Eryngium jepsonii*	Rank 1B.2	Valley and foothill grassland, vernal pools. Elevation ranges from 10 to 985 feet (3 to 300 meters). Blooms Apr-Aug.	**No Potential.** Clay soils and vernal pool habitats are absent from the Study Area.	No further actions are recommended for this species.
sand-loving wallflower *Erysimum ammophilum*	Rank 1B.2	Chaparral, coastal dunes, coastal scrub. Elevation ranges from 0 to 195 feet (0 to 60 meters). Blooms Feb-Jun(Jul-Aug).	**No Potential.** This species is known from dune habitat, which is absent from the Study Area	No further actions are recommended for this species.
San Francisco wallflower *Erysimum franciscanum*	Rank 4.2	Chaparral, coastal dunes, coastal scrub, valley, and foothill grassland. Elevation ranges from 0 to 1805 feet (0 to 550 meters). Blooms Mar-Jun.	**Unlikely.** This species is known from sandy, serpentine, rocky, and/or granitic substrates, all of which are absent from the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
minute pocket moss *Fissidens pauperculus*	Rank 1B.2	North coast coniferous forest. Elevation ranges from 35 to 3360 feet (10 to 1024 meters).	**No Potential.** North Coast coniferous forest is absent from the Study Area.	No further actions are recommended for this species.
stinkbells *Fritillaria agrestis*	Rank 4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Elevation ranges from 35 to 5100 feet (10 to 1555 meters). Blooms Mar-Jun.	**Unlikely.** Chaparral, woodland, and grassland habitats are absent from the Study Area.	No further actions are recommended for this species.
fragrant fritillary *Fritillaria liliacea*	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley, and foothill grassland. Elevation ranges from 10 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.	**Unlikely.** Woodland, coastal prairie, and grassland habitats are absent from the Study Area. The sandy substrate of dune scrub is not suitable for this species. Most of the coastal scrub is disturbed by periodic mowing, which reduces habitat quality. This species typically occurs on finer textured substrate than what is present in the Study Area.	No further actions are recommended for this species.
Butano Ridge cypress *Hesperocyparis abramsiana var. butanoensis*	Rank 1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest. Elevation ranges from 1310 to 1610 feet (400 to 490 meters). Blooms Oct.	**No Potential.** Chaparral and coniferous forest are absent from the Study Area. The Monterey cypresses were planted and are not representative of natural forest.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Kellogg's horkelia *Horkelia cuneata var. sericea*	Rank 1B.1	Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. Elevation ranges from 35 to 655 feet (10 to 200 meters). Blooms Apr-Sep.	**Unlikely.** The Study Area contains potentially suitable coastal scrub habitat, but the nearest occurrence of this species is approximately 12 miles southeast of the Study Area. Additionally, no species of *Horkelia* were observed during the April 26, 2022, site visit.	No further actions are recommended for this species.
Point Reyes horkelia *Horkelia marinensis*	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 15 to 2475 feet (5 to 755 meters). Blooms May-Sep.	**Unlikely.** The Study Area contains potentially suitable coastal scrub habitat, but the nearest occurrence of this species is approximately 12 miles southeast of the Study Area. Additionally, no species of *Horkelia* were observed during the April 26, 2022, site visit.	No further actions are recommended for this species.
harlequin lotus *Hosackia gracilis*	Rank 4.2	Broadleaved upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley, and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms Mar-Jul.	**High Potential.** This species was observed in coastal scrub and sea bluff habitats in the western and central portions of the Study Area.	**Present.** This species was detected during the rare plant survey. Avoidance and mitigation measures are listed in Section 7.1 of the Biological Resources Technical Report prepared in 2022 by WRA.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows, and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May (Jun).	**Unlikely.** Coastal prairie, coniferous forest, and meadow and seep habitats are absent from the Study Area.	No further actions are recommended for this species.
perennial goldfields *Lasthenia californica ssp. macrantha*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 15 to 1705 feet (5 to 520 meters). Blooms Jan-Nov.	**Moderate Potential.** The Study Area contains potentially suitable coastal scrub and coastal bluff scrub habitats. However, this perennial species was not observed during the April 26, 2022, survey, and is therefore assumed to be absent from the Study Area.	**Not Observed.** This species was not detected during the rare plant survey. No further actions are recommended for this species.
large-flowered leptosiphon *Leptosiphon grandiflorus*	Rank 4.2	Cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). Blooms Apr-Aug.	**Unlikely.** This species is known from open, grassy areas, and open areas in coastal scrub in the Study Area are disturbed by periodic mowing and/or often have a strong presence of invasive species, which reduces habitat quality. Additionally, there are no records of this species from San Mateo County.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
rose leptosiphon *Leptosiphon rosaceus*	Rank 1B.1	Coastal bluff scrub. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Apr-Jul.	**Unlikely.** Potentially suitable coastal bluff scrub habitat is present. However, the nearest occurrences of this species are from 1896 and 1943 and are likely extirpated. The nearest extant occurrence is located approximately 20 miles north of the Study Area. Additionally, this species was not observed during April 26, 2022, site visit, which occurred when this species would have been evident.	No further actions are recommended for this species.
Point Reyes meadowfoam *Limnanthes douglasii ssp. sulphurea*	Rank 1B.2	Coastal prairie, marshes and swamps, meadows and seeps, vernal pools. Elevation ranges from 0 to 460 feet (0 to 140 meters). Blooms Mar-May.	**No Potential**. This species is known from herb-dominated seasonal wetland habitats, which are absent from the Study Area.	No further actions are recommended for this species.
arcuate bush-mallow *Malacothamnus arcuatus*	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 50 to 1165 feet (15 to 355 meters). Blooms Apr-Sep.	**No Potential.** Chaparral and cismontane woodland habitats and gravelly alluvium substrate are absent from the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Diablo cottonweed *Micropus amphibolus*	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 150 to 2705 feet (45 to 825 meters). Blooms Mar-May.	**No Potential.** Broadleaf upland forest, chaparral, woodland, and grassland habitats are absent from the Study Area.	No further actions are recommended for this species.
marsh microseris *Microseris paludosa*	Rank 1B.2	Cismontane woodland, closed-cone coniferous forest, coastal scrub, valley, and foothill grassland. Elevation ranges from 15 to 1165 feet (5 to 355 meters). Blooms Apr-Jun (Jul).	**Unlikely.** Woodland, coniferous forest, and grassland habitats are absent from the Study Area. Scrub habitat is unlikely to support this species because while it was open at the time of the site visit, the openness is a result of mowing and not typical of un-mowed conditions, which are dense and therefore unlikely to be suitable for this species.	No further actions are recommended for this species.
elongate copper moss *Mielichhoferia elongata*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, subalpine coniferous forest. Elevation ranges from 0 to 6430 feet (0 to 1960 meters).	**Unlikely.** The dense vegetation in the Study Area would likely outcompete this species. The nearest occurrence of this species is 5 miles southeast of the Study Area on moist, shaded rock, and such habitat is absent from the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
woodland woollythreads *Monolopia gracilens*	Rank 1B.2	Broadleaved upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 3935 feet (100 to 1200 meters). Blooms (Feb)Mar-Jul.	**Unlikely.** Broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and grassland habitats are absent from the Study Area. Plant communities are likely too densely vegetated to support this species. The nearest occurrence is 10 miles northeast of the Study Area.	No further actions are recommended for this species.
Gairdner's yampah *Perideridia gairdneri ssp. gairdneri*	Rank 4.2	Broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 2000 feet (0 to 610 meters). Blooms Jun-Oct.	**Unlikely.** Although seasonally wet areas are present, the nearest occurrence of this species is approximately 11 miles east-southeast of the Study Area, east of the Santa Cruz Mountains crest, and with the lack of a nearby seed source, this species is unlikely to colonize the Study Area.	No further actions are recommended for this species.
Monterey pine *Pinus radiata*	Rank 1B.1	Cismontane woodland, closed-cone coniferous forest. Elevation ranges from 80 to 605 feet (25 to 185 meters).	**No Potential.** The Study Area is located well outside of any known historic or modern native occurrences of this species. Additionally, no species of *Pinus* were observed in the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Choris' popcornflower *Plagiobothrys chorisianus var. chorisianus*	Rank 1B.2	Chaparral, coastal prairie, coastal scrub. Elevation ranges from 10 to 525 feet (3 to 160 meters). Blooms Mar-Jun.	**High Potential.** This species was observed in mowed coastal scrub habitat in the central portion of the Study Area.	**Present.** This species was detected during the rare plant survey. Avoidance and mitigation measures are listed in Section 7.1 of the Biological Resources Technical Report prepared in 2022 by WRA.
San Francisco popcornflower *Plagiobothrys diffusus*	Rank 1B.1	Coastal prairie, valley and foothill grassland. Elevation ranges from 195 to 1180 feet (60 to 360 meters). Blooms Mar-Jun.	**No Potential.** Coastal prairie and grassland habitats are absent from the Study Area.	No further actions are recommended for this species.
pine rose *Rosa pinetorum*	Rank 1B.2	Cismontane woodland, closed-cone coniferous forest. Elevation ranges from 5 to 3100 feet (2 to 945 meters). Blooms May-Jul.	**No Potential.** Woodland and coniferous forest habitats are absent from the Study Area. The Monterey cypresses were planted and are not representative of natural forest habitat.	No further actions are recommended for this species.
Hoffmann's sanicle *Sanicula hoffmannii*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, lower montane coniferous forest. Elevation ranges from 100 to 985 feet (30 to 300 meters). Blooms Mar-May.	**Unlikely.** All occurrences of this species in the region are from shady, forested habitat, which is absent from the Study Area. The Monterey cypresses were planted and are not representative of natural forest habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Scouler's catchfly *Silene scouleri ssp. scouleri*	Rank 2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms (Mar-May)Jun-Aug(Sep).	**Unlikely.** Although coastal bluff scrub habitat is present, this species is known from rocky habitats in San Mateo County, and such habitat is absent from the Study Area.	No further actions are recommended for this species.
San Francisco campion *Silene verecunda ssp. verecunda*	Rank 1B.2	Chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 100 to 2115 feet (30 to 645 meters). Blooms (Feb)Mar-Jul(Aug).	**Unlikely.** Although coastal scrub and coastal bluff scrub habitats are present, this species typically occurs on mudstone or shale or in loose sandy substrates, which are absent from the Study Area. Additionally, the nearest occurrence is approximately 10 miles southeast of the Study Area.	No further actions are recommended for this species.
Santa Cruz microseris *Stebbinsoseris decipiens*	Rank 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 1640 feet (10 to 500 meters). Blooms Apr-May.	**Unlikely.** Although scrub habitat is present, this species is typically known from ridges and slopes, not the near flat topography along the immediate coast. Additionally, coastal scrub is disturbed by periodic mowing. The nearest occurrence of this species is approximately 6 miles southeast of the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
northern slender pondweed *Stuckenia filiformis ssp. alpina*	Rank 2B.2	Marshes and swamps. Elevation ranges from 985 to 7055 feet (300 to 2150 meters). Blooms May-Jul.	**No Potential.** Marsh and swamp habitats are absent from the Study Area.	No further actions are recommended for this species.
Santa Cruz clover *Trifolium buckwestiorum*	Rank 1B.1	Broadleafed upland forest, cismontane woodland, coastal prairie. Elevation ranges from 345 to 2000 feet (105 to 610 meters). Blooms Apr-Oct.	**No Potential.** Broadleafed upland forest, cismontane woodland, and coastal prairie habitats are absent from the Study Area.	No further actions are recommended for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
SE	State Endangered
SD	State Delisted
ST	State Threatened
SR	State Rare
Rank 1A	CNPS Rank 1A: Plants presumed extinct in California
Rank 1B	CNPS Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CNPS Rank 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CNPS Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CNPS Rank 3: Plants about which CNPS needs more information (a review list)
Rank 4	CNPS Rank 4: Plants of limited distribution (a watch list)

Potential to Occur:

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:

Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

Not Present. Species is assumed to not be present due to a lack of key habitat components.

Not Observed. Species was not observed during surveys.

Presence Unknown: A survey was not conducted to determine absence or presence of this species.

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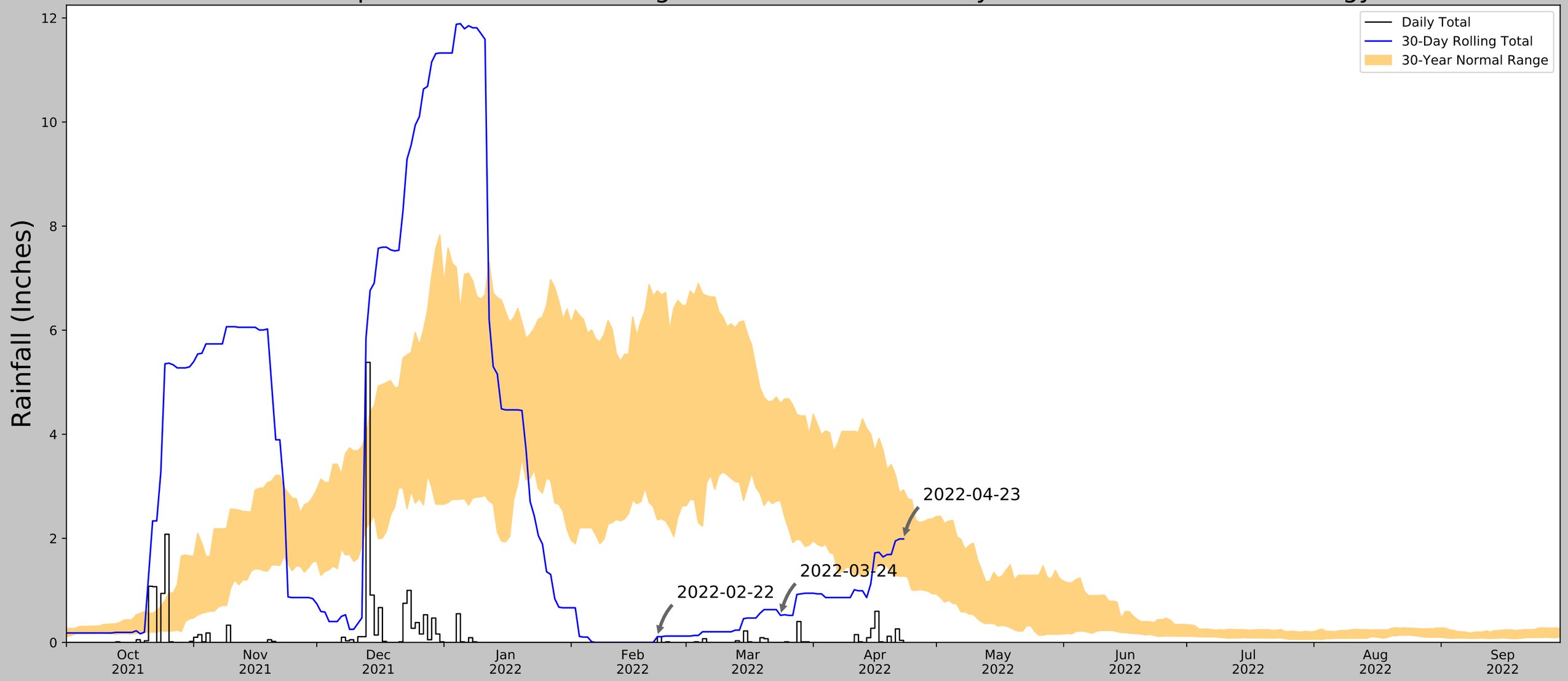
APPENDIX D – ANTECEDENT PRECIPITATION OUTPUT GRAPH

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.209120, -122.399980
Observation Date	2022-04-23
Elevation (ft)	122.64
Drought Index (PDSI)	Severe drought (2022-03)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-04-23	1.274803	2.931496	1.988189	Normal	2	3	6
2022-03-24	2.729134	4.590158	0.519685	Dry	1	2	2
2022-02-22	2.359055	6.759843	0.110236	Dry	1	1	1
Result							Drier than Normal - 9

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
HALF MOON BAY	37.4725, -122.4433	26.903	18.353	95.737	10.016	10555	87
SAN GREGORIO 2 SE	37.3117, -122.3617	274.934	7.394	152.294	4.453	766	0
DAVENPORT 3.1 NW	37.0436, -122.2293	46.916	14.805	75.724	7.784	2	0
HALF MOON BAY 1.0 S	37.455, -122.4383	64.961	17.119	57.679	8.691	20	2
HALF MOON BAY 0.5 SSW	37.463, -122.4408	54.134	17.684	68.506	9.169	9	1
MOUNTAIN VIEW 1.2 S	37.3848, -122.0752	108.924	21.587	13.716	10.01	1	0